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COVER NOTE

From:	Secretary-General of the European Commission, signed by Ms Martine DEPREZ, Director
date of receipt:	6 March 2025
To:	Ms Thérèse BLANCHET, Secretary-General of the Council of the European Union
No. Cion doc.:	SWD(2025) 50 final
Subject:	COMMISSION STAFF WORKING DOCUMENT EVALUATION of Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive)

Delegations will find attached document SWD(2025) 50 final.

Encl.: SWD(2025) 50 final

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SWD(2025) 50 final

PART 2/2

COMMISSION STAFF WORKING DOCUMENT

EVALUATION

of Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive)

{SWD(2025) 51 final}

ANNEX I. PROCEDURAL INFORMATION

Lead DG, Decide reference and, if relevant, Work Programme reference

This evaluation is led by DG Environment. It was included as item PLAN/2020/8067 in the DECIDE/Agenda Planning database.

Organisation and timing

A joint inter-service Group for the MSFD Review was set up in March 2021, including members from all relevant Directorates-Generals and relevant agencies:

- Secretariat General (SG)
- Legal Service (SJ)
- Agriculture and Rural Development (AGRI)
- Climate Action (CLIMA)
- Communications Network, Content and Technology (CONNECT)
- Environment (ENV)
- Energy (ENER)
- European Civil Protection and Humanitarian Aid Operations (ECHO)
- Financial Stability, Financial Services and Capital Markets Union (FISMA)
- Health and Food Safety (SANTE)
- Internal Market, Industry, Entrepreneurship and SMEs (GROW)
- Joint Research Centre (JRC)
- Maritime Affairs and Fisheries (MARE)
- Migration and Home Affairs (HOME)
- Mobility and Transport (MOVE)
- Regional and Urban Policy (REGIO)
- Research and Innovation (RTD)
- European Environment Agency (EEA)
- European Maritime Safety Agency (EMSA)

The group met four times during the evaluation process. On a number of deliverables, the group was consulted in writing. The most relevant services were also invited to events/workshops organised in the context of the consultation process described in Annex 5, Synopsis Report (in particular: MARE, MOVE, EMSA, JRC, CLIMA, ENER and EEA).

Date and topics of discussion:

1. 10 March 2021:1st ISG meeting: discussion overall process and roadmap
2. 29 June 2021: 2nd ISG meeting: discussion on the feedback mechanism, planned public consultation, support contract for the evaluation and plans for a stakeholder conference
3. 3 February 2022: 3rd ISG meeting: discussion on the draft final report from the support study, outcome of the stakeholder consultations, in particular: open consultation, targeted survey and stakeholder conference) (including written consultation)
4. 6 March 2024: 4th ISG meeting: discussion on the draft COM Evaluation SWD (including written consultation)

Consultation of the Regulatory Scrutiny Board

An upstream meeting was held with the Regulatory Scrutiny Board on the 31 May 2022 on the MSFD review process (evaluation and impact assessment 'back-to-back'). The RSB provided a list of recommendations for the process (both the evaluation and IA). The main points for the evaluation were the following:

- Concerning the **problem definition**, advise to be clear upfront about whether the concept of good environmental status (GES) is problematic in its current form, whether the ambition level is appropriate, whether the 11 descriptors are still the right ones and/or whether they have should have different weighing. When it comes to the identified regulatory and implementation failures identified, the impact assessment will have to show the root causes. Similarly, it is important to be clear about the connection between data collection – data availability – monitoring system and enforcement. Understanding the reason why things did not work (notably as regards data gaps and quality issues) will help formulate the right measures.
- Ensuring **coherence** with other related initiatives is especially important in this case. It will have to be made clear in the **baseline** what is the expected effect of already adopted initiatives but also of those where legislative discussions are still ongoing (e.g. Nature restoration and REPowerEU). Also on the baseline, it was noted that this analysis should be dynamic to take account of initiatives in the pipeline and advised to be explicit about what can reasonably be expected in terms of improved implementation and enforcement under the current framework.
- In terms of **methodology**, the report will have to be clear about the assumptions and report limitations of modelling work. If, for instance, willingness to pay is used to estimate benefits, attention should be paid to how this is presented and extrapolated to the whole EU. It can be a useful method if the analysis is carried out appropriately with a good quality questionnaire on stated preference, a well justified and transparently explained questionnaire design, choice of the surveyed population and sample, and with data statistically tested for reliability and representativeness. More generally, in case the modelling available has limitations, these should be clearly presented while findings should be complimented with stakeholder views and evidence from other sources to have a coherent and full analysis.
- As **GES is not clearly defined ex ante** some Member States have used their own definition thereof. It is therefore important to show what kind of **improvements** (independent of the definition used) have been **achieved** relative to the past and trying to identify why some specific actions were successful (through for example case studies). There are many different sectors concerned and **data** availability differs. This means the analysis may be biased by what is available which could lead to underestimating benefits as they are much more difficult to identify. In some situations, case studies may be more useful than extrapolating based on an inconsistent evidence basis.

Evidence, sources and external expertise

- Support study conducted by Milieu/ACTeon: 'Support to the evaluation of the Marine Strategy Framework Directive, Final Report'. This contract was signed on 29 April 2020 (as part of the larger support study for the implementation of the MSFD) and the final report was approved in January 2023.
- JRC provided recommendations for the review and undertook modelling of environmental baselines across a number of Descriptors (Blue 2 model)[1]
- Territorial Impact Assessment conducted in May 2022; report was delivered on 13 June 2022.

[1] Hanke G. et al, EU Marine Beach Litter Baselines, EUR 30022 EN, Publications Office of the European Union, Luxemburg, 2019, ISBN 978-92- 76-14243-0, doi:10.2760/16903, JRC114129.

- The Consultation of Stakeholders was an important element of gathering all necessary information and validating data and preliminary finding (see Annex V). Stakeholder Workshops were organised on key topics to verify the findings and outcomes of the study with external stakeholders.

ANNEX II. METHODOLOGY AND ANALYTICAL MODELS USED

Analysis and evaluation of evidence

The evaluation framework formed the basis for the detailed review of evidence and analysis of each evaluation question. The evaluation matrix (see Annex III) identifies the linkages between the evaluation questions, the information required, and the data collection tools used in the evaluation.

The analysis followed the basic rules of content analysis, i.e. it focused on the categorisation and summary of the data from dispersed sources (documentary review, targeted consultation questionnaire, public consultation, interviews) and thus the identification of important issues and linkages between different aspects of a subject. The analysis had both quantitative and qualitative elements.

Both the targeted survey and the online public consultation were made available online, using EU Survey. Results from both questionnaires were downloaded in Excel format, which facilitated the statistical analysis. A small data analysis team was responsible for cleaning the data and preparing it for use by the wider team. General results of closed questions, as well as results by stakeholder group, were compiled and provided in a readable format to the entire study team. Each question was allocated to a particular evaluation criterion so as to ensure that all questions were considered, with the lead evaluators selecting the relevant data to present in the report in graphical form (generally or by stakeholder group) for each criterion.

Responses to open questions and interviews were analysed separately by the evaluation team. Due to the relatively small number of responses to both the online public consultation and targeted survey, there was no need to develop any pre-screening processes or use machine learning.

All of the documentary sources identified were tagged and allocated to relevant evaluation criteria/questions and subsequently reviewed by the team members working on each criterion. All relevant excerpts were referenced in the analysis of the evaluation questions.

Triangulation (looking at multiple (ideally three or more) sources of evidence from different perspectives) was the basis for the content analysis and the distillation of judgements and conclusions. This is a complex undertaking, which relied to a certain extent on professional judgement, supported in each case by clear presentation of the available evidence.

Challenges, limitations and mitigation measures

A number of challenges were encountered during the data collection phase of the evaluation in relation to the availability of certain information and data, the quality of consultation inputs, and the limited possibility (in some cases) to triangulate sources and opinions. The main challenges encountered are summarised below. Despite these limitations, the triangulation of the different data sources means that there is a good degree of confidence in the robustness of the conclusions presented.

Validity of sources

The data sources are not without limitations. The MSFD does not exist in a vacuum, and Europe's marine environment is subject to both external factors and to other EU environmental legislation. Some of the observations in the literature or even the Member State reporting may not always directly relate to the MSFD, but, rather, to the effects of other policy mechanisms.

The evaluation (of effectiveness, in particular) drew heavily on Member State reporting and the Commission assessments of that reporting. Member States self-report and can only be assumed to be accurate and complete. Some work has been done to supplement these data with additional sources (e.g. JRC reports), but Member State reporting forms the basis of much of the analysis both for this evaluation and wider literature. Commission assessments are largely based on e-reporting, which sees

Member States complete templates, often using standardised answers, potentially leading to a loss of specificity and/or increased ambiguity. A failure to correctly upload information to the e-reports was likely assumed to be a gap in the marine strategy, even if in reality the strategy fulfilled all requirements. The assessment methodologies may also pose a limitation. Despite careful design, it was not always possible to fully assess the large amounts of data reported, nor give sufficient consideration to the nuances in various Member States. In addition, the assessment methodology changed significantly between the first and second implementation cycles, limiting their comparability.

Limited availability of some types of data

The limited knowledge base in relation to MSFD costs and benefits – two elements that have so far received little attention in the MSFD reporting by Member States – is a key limitation when assessing efficiency. Member States do not systematically track the administrative costs of implementing the Directive, and the assessment has therefore relied upon estimation from stakeholders and an extrapolation exercise to develop costs estimates for the whole Directive across the EU.

Where socio-economic data are reported, they have limited coherence and are difficult to use, requiring additional knowledge obtained via desktop research, semi-structured interviews with selected experts and stakeholders, and wider stakeholder consultation. Similarly, data on the state of the marine environment and EBA were not systematically and comprehensively available, and thus drew heavily on consultation results.

Another challenge was the relatively short time between the adoption of the MSFD and the evaluation: while the delivery of enhanced integrated frameworks (such as marine strategies) can be observed, it is often too early to assess if those frameworks are effective or remain simply 'frameworks on paper', with little or no operational implications. Some measures proposed in the Member States' PoMs might not have been fully implemented yet, or their effects may not have translated into changes in individual MSFD descriptors or in the overall ecological status of marine ecosystems. Finally, the 2017 GES Decision was very newly in place for the start of the second reporting cycle, and the full effects of the change remain to be seen throughout the remainder of the second cycle.

The timing issue particularly complicates the assessment of the benefits of the Directive, as key welfare benefits such as the full restoration of ecosystems are expected but have yet to materialise in reality.

Representativity of consultation activities

Findings presented in this study relied heavily on the results of the consultation activities. This stems from the limited availability of literature on certain aspects of the evaluation. This is significant, as many of the consultation activities involved members of the CIS. However, while the CIS can be assumed to cover all stakeholders active in MSFD implementation, the selection of the focus group participants, with the exception of the Member State focus group, was not based on CIS participation alone, and thus mitigated this issue somewhat.

The consultation process was also limited by the self-selecting nature of the surveys and focus groups. As mentioned, a large number of respondents were invited to complete the targeted survey, with around 10 % of invitees responding. Similarly, a high number of focus group invitees either did not reply to invitations (despite reminders) or were unable to attend the dates set and failed to provide written responses. Those that did participate can therefore be assumed to be motivated to participate in the MSFD review. This means that the views of the motivated are reflected, while those of the less motivated are not, which may have created a bias in the information.

In addition to sampling issues, the nature of the closed questions – which were sometimes very high

level and too complex to answer by ticking a box – proved difficult for some respondents and led, in certain cases, to many respondents choosing middle responses (e.g. 'to a moderate extent') or no response at all. This was partly overcome by the explanations that respondents provided in open-ended questions and did not hinder a good overview of stakeholders' opinions on key aspects of the Directive.

Desk research conducted for the evaluation

Around 330 desk sources were identified, including legal and policy documents, studies, reports, datasets and other written evidence.

- Reports developed on behalf of the Commission, such as assessments of Member States' implementation reports, MSFD-related research projects, other impact assessments, evaluations and fitness checks from relevant policies.
- CIS documents, including minutes from relevant WG and TG meetings or workshops, guidance developed for the implementation of the Directive.
- Review of the portals through which MSFD data and information is made available.
- Raw data from platforms such as WISE Marine or the Central Data Repository.
- Academic research and articles.
- Various position papers and wider resources provided by stakeholders throughout the evaluation.
- The full list of references is included in Annex IX.

Consultation activities conducted

Consultation activities served the dual objective of collecting the evidence necessary to answer the evaluation questions and providing sufficient opportunities to all interested parties to input to the evaluation. The consultation activities formed part of the overall consultation strategy set out for the back-to-back evaluation-impact assessment procedure defined in the roadmap. Detailed information on the outcome of the consultation activities is provided in Annex V (synopsis report stakeholder consultations).

Methodology and models applied for the assessment of Efficiency:

The assessment of costs and benefits carried out for the evaluation of efficiency was hampered by lack of consistent and comprehensive data.

On the costs side, most of the direct costs incurred to date have been borne by Member State administrations. However, they are not required to collect data on or report their costs related to administrative activities, monitoring efforts or measures to achieve GES. As a result, data for the evaluation were collected through surveys and published reports, and extrapolation methods employed to create EU-wide estimates (see Annex IV for details).

The estimation of the benefits of the MSFD was particularly challenging, due to the fact that many of its activities, outputs and hence results and impacts, relate to improving the effectiveness of other EU Directives and policies (e.g. Marine Spatial Planning (MSP), Common Fisheries Policy (CFP), Birds and Habitats Directive (BHD) and Natura 2000 sites). Quantifying the specific benefits of 'enabling' policy instruments, such as the MFSD, is challenging due to the nature of the regulatory landscape and the interconnectedness and co-dependency of the instruments it seeks to improve. In addition, placing monetary values on the ecosystem services that these other EU Directives and policies seek to improve has not been possible.

Achieving GES is a multifaceted endeavour that requires harmonising various legislative instruments, with the MSFD playing a pivotal role. While the benefits of attaining GES are anticipated to outweigh the costs of implementation, attributing these benefits to specific directives such as the MSFD poses

a considerable challenge. The collaborative nature of GES attainment, involving multiple policies and Directives, makes it difficult to isolate the individual contributions of each instrument to the overall environmental improvement. In addition, to be able to measure and quantify the benefits achieved from GES requires continued monitoring and validation post-implementation. It is important that actions implemented to achieve long term positive impacts on ecosystems are monitored in the long term to ensure that actions are indeed providing benefits. This requires the setting of a minimum benefits expectation based on baselines from healthy ecosystems of similar nature. Without validation of ecosystem services and condition before and after actions have been implemented, and over time, the attainment of quantifiable benefits data remains problematic.

The complexity of marine ecosystems, significant spatial variations and a lack of structured data collection means that quantifying benefits of healthy marine ecosystems remains difficult. Research conducted for the Nature Restoration Law impact assessment illustrated the difficulties encountered in conducting cost-benefits analysis for measures to improve the environmental status of marine habitats. In this work, a lack of robust data beyond Habitat Directive habitats, coupled with the complexity of marine ecosystems, limited the ability to quantify benefits accurately. As a result, that assessment relied on qualitative analyses drawing from meta- and case-study evidence to gauge the overall impact of potential restoration efforts. Despite these challenges, the evidence suggested that restoration initiatives in the marine environment can yield considerable benefits relative to their costs. This highlights the potential for substantial gains from GES attainment.

Given these challenges, the assessment of benefits presented in the evaluation has relied upon a series of willingness-to-pay studies in 13 Member States that assessed the maximum amount of money individuals in those countries would be willing to give up for the improvements associated with the achievement of GES. While stated preference studies of this type can be a valuable source of information, these studies were not employed for the purpose of conducting a wide-scale assessment of the potential benefits of the MSFD. As such, the methodologies used differ, and it was not possible to adjust for differences in the ecological, socio-economic or cultural context of the different countries (other than adjusting for purchasing power parity).

Given the lack of reliable and comprehensive data, the quantiative estimates provided in monetary terms in the evaluation should be interpreted with caution. While the findings show that indeed the benefits have exceeded the costs, and that administrative costs are largely in line with expectations at the time of adoption, the use of extrapolation methods and data reported for purposes other than this evaluation does limit the credibility of the results.

ANNEX III. EVALUATION MATRIX AND, WHERE RELEVANT, DETAILS ON ANSWERS TO THE EVALUATION QUESTIONS (BY CRITERION)

Effectiveness

Question	Sub-questions	Judgement criteria/indicators	Sources of information
Question 1: To what extent has the MSFD met its objectives?	1.1 To what extent has good environmental status in the marine environment been achieved or maintained by the year 2020 at the latest?	■ The Directive has improved the state of the marine environment specifically: ■ The Directive has supported the protection, preservation and restoration of marine ecosystems ■ The Directive has contributed to the prevention and reduction of inputs in marine environment ■ Sufficient progress has been made by 2020 compared to the 2008 baseline	■ COM(2020) 259 and the supporting SWD ■ Literature (EEA/JRC, academic articles)
	1.2 To what extent has the Directive stablished a framework to achieve or maintain GES?	■ The Directive has fostered the development and implementation of adequate marine strategies ■ The Directive has strengthened regional cooperation ■ The Directive has fostered a robust knowledge framework ■ The Directive has adopted an EBA	■ Stakeholder perspectives ■ CIS meeting minutes ■ COM(2020) 259 and the supporting SWD ■ Second cycle Article 12 assessments ■ Literature (EEA/JRC, academic articles) ■ JRC guidance on reporting, measures and monitoring ■ 2017 GES Decision
Question 2: What are the key factors that positively or negatively influence the achievements observed?	2.1 What factors have positively influenced the achievements observed?	■ Identification of the main factors that have boosted or hindered implementation progress with regard to: achievement of GES, implementation of marine strategies, regional cooperation; data and knowledge, and policy coherence ■ Extent to which these factors are supported by stakeholder consultation results	■ Stakeholder perceptions ■ Academic literature
	2.2 What factors have negatively influenced the achievements observed?		

Efficiency

Question	Sub-questions	Judgement criteria/indicators	Sources of information
Question 3: To what extent has the MSFD been implemented cost-effectively?	3.1 What are the costs of the MSFD implementation?	■ The Directive's implementation has led to: ■ Direct compliance costs (Administrative costs, Adjustment costs) ■ Indirect costs ■ These costs relate to: ■ Staff requirements for reporting, monitoring, assessments, implementation, marine strategies within Member State institutions ■ Staff requirements CIS ■ Costs related to field work, laboratory work, data management, maintenance,	■ Information obtained on effort and burden in the targeted survey ■ Focus Groups (Member States, RSCs) ■ Information on CIS meeting types, frequencies, agendas published on CIRCABC

Question	Sub-questions	Judgement criteria/indicators	Sources of information
		and transport ■ Costs of implementing measures that are considered 'new' or directly attributable to the MSFD, as opposed to other legislation ■ Additional costs to private economic operators due to incoherence between policies, and between efforts made for addressing a given environmental problem	■ Member State reporting PoMs ■ Eurostat data on marine area, coastal length in MS
	3.2 What are the benefits of MSFD implementation?	■ Extent to which the MSFD has delivered: ■ Efficiency improvements in management of the marine environment ■ Welfare gains, stemming in particular from clean, healthy and productive seas, in line with the MSFD objectives	■ Study on the costs and benefits of the MSFD (past and newly published) Member States' PoMs ■ Survey on the application of economic assessment for supporting MSFD implementation ■ Assessment of the costs of degradation (first Socio-economic assessments, reports and accompanying studies – no relevant information reported to the European Commission) ■ Literature ■ Public and targeted surveys, Focus Groups
	3.3 How do the costs compare to the benefits?	■ Extent to which the costs resulting from the implementation of the MSFD are outweighed by the benefits, taking into consideration longer-term potential benefits.	■ Results of the previous two sub-questions ■ Online public consultation
Question 4: Which factors constrained or could have improved the cost-effective implementation of the MSFD?	4.1 Are current Member State mechanisms able to deliver the MSFD cost-effectively?	■ Extent to which delivery of the MSFD at Member State level has been cost-effective, including efficiency of: ■ Monitoring programmes ■ Reporting ■ Designing and implementing PoMs ■ Use of exceptions based on disproportionate costs	■ POMESA minutes ■ POMESA survey on the role of socio-economic assessments for supporting the implementation of the MSFD ■ Study on MSFD governance and stakeholder mobilisation (forthcoming) ■ Analysis of the results of the assessment of the first PoM, and the relevance of recommendations related to cost-effectiveness ■ Targeted survey and Member

Question	Sub-questions	Judgement criteria/indicators	Sources of information
			State/RSC focus groups ■ Literature review ■ Analysis of the conditionalities set in individual Member State funding instruments (CFP, CAP) – or literature review
	4.2 Are current RSC mechanisms able to deliver the MSFD cost-effectively?	■ Extent of synergies between RSC objectives and actions and EU legislation ■ Extent to which coordination at regional level has led to cost-effectiveness in MSFD implementation including assessments and common indicator development	■ Reports and evidence from the RSCs ■ Literature ■ Member State/RSC focus groups
	4.3 Are current European mechanisms able to deliver the MSFD cost-effectively?	■ Extent to which EU funding mechanisms have been mobilised to support cost-effective implementation of the MSFD ■ Evidence of integration of MSFD objectives and obligations in key EU sector policies, in particular in the conditionalities of sector policies and subsidies (CAP, CFP, etc.) or in instruments set to support the development of Blue Economy sectors	■ Focus of the CIS process and WG (POMESA) – minutes of meetings ■ Member State focus groups ■ Consideration of assessments and monitoring programmes
Question 5: To what extent is the distribution of MSFD costs and benefits considered adequate?		■ In line with the application of the polluter pays principle, extent to which the level of effort required by a given sector (e.g. for contributing to the integrated knowledge base or under the PoM) is proportional to the pressures the sector imposes on marine ecosystems resulting in their degradation ■ At sea basin scale, allocation of efforts and costs (for implementing the MSFD in general, in the measures proposed under the PoM) between Member States/countries is in line with the pressures imposed by sectors/activities of individual countries on marine ecosystems ■ In some cases, mechanisms proposed for reducing the level of effort/costs for a given sector (e.g. via the allocation of public subsidies) ■ Extent to which the costs of implementing the MSFD are considered affordable and acceptable by different groups	■ Comparison between the relative importance of sectors in pressures imposed on marine ecosystems (different MSFD descriptors) with the relative share of costs in the PoM ■ Targeted survey and Member State/RSC, private operator focus groups ■ Literature

Relevance

Question	Sub-questions	Judgement criteria/indicators	Sources of information
Question 6: Do the objectives and requirements of the Directive remain relevant?	6.1 What are the needs in relation to the protection of the marine environment and to what extent does the MSFD still address these needs?	■ Consistency of needs addressed by the MSFD and list of new needs/projected needs ■ Proportion of stakeholder, expert and public responses indicating gaps between objectives/actions and current and future needs	■ Eurobarometer ■ Position statements/other publications by stakeholders/marine users ■ Relevant studies and reports ■ Number of members in e-

Question	Sub-questions	Judgement criteria/indicators	Sources of information
			▪ NGOs focusing on marine environment in 2008 vs now ▪ Perspectives of all stakeholders
	6.2 How relevant is the protection of the marine environment to EU citizens and different stakeholders?	▪ Proportion of EU citizens identifying protection of marine environment as important ▪ Proportion of industry/economic operators identifying protection of marine environment as important ▪ Proportion of NGOs identifying protection of marine environment as important ▪ Evidence of increasing levels of engagement for marine protection by EU citizens and stakeholders since 2008	▪ Content of legal text and documents published ahead of the adoption of the MSFD ▪ Minutes of CIS group meetings ▪ Relevant reports and studies, including H2020, EEA and JRC reports ▪ Perspectives of all stakeholders and the public
	6.3 To what extent are the 11 descriptors still relevant?	▪ Consistency of pressures/environmental components addressed by the MSFD descriptors and list of new/projected pressures/environmental component needs ▪ Proportion of stakeholders/experts identifying the extent to which the MSFD descriptors cover current and emerging needs	▪ Minutes of CIS group meetings ▪ Relevant reports and studies and literature review ▪ Perspectives of all stakeholders ▪ Results of coherence assessment (EQ9, EQ10)
	6.4 How relevant is the MSFD for achieving current (and likely future) environmental, sectoral, and horizontal policy objectives and targets?	▪ Consistency of policy objectives and targets to which the MSFD contributes, and remaining policy objectives and targets ▪ Number of stakeholders/experts identifying the extent to which the MSFD is consistent with current and future EU environmental/ sectoral objectives and targets ▪ Stakeholder and expert responses identifying the extent to which the MSFD is still relevant for achieving international and horizontal European policy objectives and targets	
Question 7: Is the Directive flexible enough to integrate lessons learned during its implementation and to adapt to emerging pressures?		▪ Inherent flexibility of the Directive, including timelines for updates to key planning steps ▪ Consistency of lessons learned (adaptation made) and outstanding issues ▪ Evidence from stakeholders/experts and literature on how integration of lessons learned could be encouraged	▪ Content of legal text of the MSFD and 2017/2010 GES Decision ▪ Relevant reports and studies ▪ CIS group meeting minutes ▪ COM(2020) 259 and the supporting SWD ▪ Perspectives of authorities and experts

Coherence

Question	Sub-questions	Judgement criteria/indicators	Sources of information
Question 8: To what extent is the MSFD coherent with other EU environmental policies, especially water, pollution and waste control, biodiversity and nature protection?	EQ 8.1 To what extent are the objectives and scope of the selected environmental policies complementary?	■ Consistency or complementarity of general and specific objectives of all relevant policies ■ Consistency or complementarity of scope of all relevant policies	■ Content of legal text of the MSFD and relevant policies ■ Perspectives of stakeholders
	EQ 8.2 How do the legislative pieces of EU environmental policies interact with the MSFD? What are the potential synergies? What are the potential risks for overlaps and conflicts?	■ Consistency or complementarity of data collection/exchange for the different pieces of legislation ■ Evidence of elements that may lead to weaknesses, overlaps or inconsistencies when considering the MSFD and wider EU legislation ■ Actions/activities undertaken by all relevant policies, including timelines, inputs, outputs	■ Content of legal text of the MSFD and relevant policies ■ Previous evaluations for relevant pieces of legislation ■ Perspectives of stakeholders ■ Relevant reports and studies
Question 9: To what extent is the Directive coherent and mainstreamed into other EU policies affecting the marine environment, in particular fisheries, maritime spatial planning, energy, transport and climate change?	9.1 To what extent are the objectives and scope of the sectoral policies complementary and/or coherent with those of the MSFD?	■ Complementarily of general and specific objectives of all relevant policies ■ Complementarity and/or consistency of the scope of all relevant policies	■ Content of legal text of the MSFD and relevant policies ■ Previous evaluations for relevant pieces of legislation ■ Perspectives of stakeholders ■ Relevant reports and studies
	9.2 How do the legislative pieces of EU sectoral policies interact with the MSFD?	■ Evidence of provisions in the MSFD that restrict activities set out under sectoral policies or threaten the objectives of the MSFD ■ Evidence of elements that may lead to weaknesses, overlaps or inconsistencies when considering the MSFD and wider EU sectoral polices	■ Content of legal text of the MSFD and relevant policies ■ Perspectives of stakeholders ■ Relevant reports and studies
Question 10: To what extent is the MSFD coherent with EU regional and international obligations, in particular the Agenda 2030 Sustainable Development Goals, the CBD, IMO conventions, RSCs and UNCLOS? How does it support fulfilment of these commitments?	10.1 To what extent are objectives and scope of the regional and international agreements coherent with those of the MSFD?	■ Complementarity and coherence of general and specific objectives of all relevant policies	■ Content of legal text of the MSFD and relevant policies ■ Previous evaluations for relevant pieces of legislation ■ Perspectives of stakeholders ■ Relevant reports and studies
	10.2 How do the regional and international agreements interact with the MSFD? What are examples of synergies or conflicts that could be identified in practice or in theory?	■ Evidence of elements that may lead to weaknesses, overlaps or inconsistencies when considering the MSFD and international obligations ■ Evidence of overlap between the MSFD and international agreements (e.g. administrative burden)	■ Content of legal text of the MSFD and relevant policies ■ Previous evaluations for relevant pieces of legislation ■ Perspectives of stakeholders ■ Relevant reports and studies ■ Case-law and infringement proceedings

EU added value

Question	Sub-questions	Judgement criteria/indicators	Sources of information
Question 11: What value has the MSFD added to what the Member States would have achieved on their own at national and /or regional level?	Q 11.1 To what extent would Member States have taken similar action to protect the marine environment without the MSFD?	■ Examples of similarities in legislation at national and EU level predating the MSFD and identification of gaps addressed by the MSFD ■ Evidence of global obligations to which Member States are a Party shaping Member State actions and identification of gaps addressed by the MSFD ■ Evidence of strong and consistent regional cooperation (including within the RSC and between regions) and identification of gaps addressed by the MSFD	■ Impact assessment and other reports prepared as part of MSFD adoption ■ Content of legal texts of international/regional agreements and examples of national frameworks ■ Results coherence evaluation ■ Relevant reports and studies ■ Results of effectiveness evaluation ■ Perspectives of stakeholders
	Q 11.2 Even if Member States had taken similar action to protect the marine environment, would the benefits to the marine environment have been as high without the MSFD?	■ Comparison of possible Member State action alone to effects achieved (effectiveness of Member State action effects vs effectiveness of actions undertaken within the framework of the MSFD) ■ Evidence of use of EBA under other marine protection mechanisms in place, aside from the MSFD, and related added value of the MSFD ■ Evidence of added value of the MSFD in coherent and systematic contribution to the knowledge base in view of other existing instruments ■ Extent to which the MSFD has contributed towards the implementation of other sectoral legislation ■ Evidence of EU/international legislation contributing to MSFD objectives as part of their own objectives ■ Other factors identified during the evaluation	■ Impact assessment and other reports prepared as part of MSFD adoption ■ Content of legal texts of international/regional agreements and examples of national frameworks ■ Relevant reports and studies ■ Results of coherence evaluation ■ Perspectives of stakeholders
Question 12: To what extent do the issues addressed by the Directive continue to require action at EU level?	EQ 12.1 How were the legal basis and compliance with subsidiarity and proportionality principles analysed at the time of proposal and adoption of the MSFD?	■ Review the analysis of legal basis, subsidiarity and proportionality of the MSFD at the time of its adoption	■ Impact assessment, explanatory memorandum and legal text of the MSFD
	EQ 12.2 Are the subsidiarity and proportionality arguments still valid and likely to be valid in the future?	■ Extent to which the arguments supporting compliance with subsidiarity and proportionality remain valid ■ Review of results from previous sub-questions and whether any changes have occurred that would impact the need for continued EU action to maintain those results ■ Findings from other evaluation criteria pointing to need for continued EU action and/or address possible shortcomings	■ Review of implementation experience and assessment of other evaluation criteria ■ Perspectives of stakeholders

ANNEX IV. OVERVIEW OF COSTS AND BENEFITS AND TABLE ON SIMPLIFICATION AND BURDEN REDUCTION

Table 5. Overview of costs and benefits identified in the evaluation

		Citizens/Consumers		Businesses		Administrations		[Other…] _ specify	
		Quantitative	**Comment**	**Quantitative**	**Comment**	**Quantitative**	**Comment**	**Quantitative**	**Comment**
Direct compliance costs of implementing the MSFD									
Administrative cost	**Recurrent (annually)**	--	--	--	--	**EUR 92.6 m/yr**	Calculated according to EU SCM; see below Costs estimated in the 2005 IA at EUR 90m/yr for first two years and EUR 70 m/yr afterwards	--	--
Adjustment cost	**Recurrent (annually)**	--	--	--	--	**EUR 626.8 m/yr**		--	--
Indirect compliance costs generated by the MSFD									
Indirect compliance costs	**Recurrent (annually)**	Non-quantifiable	Some costs related to impacts on marine-based sectors will be passed on to consumers.	Non-quantifiable	Changes in production, services or activities for marine-based sectors; assumed to be limited to date due to limited	--	--	--	--

		Citizens/Consumers		Businesses		Administrations		[Other…] _ specify	
		Quantitative	**Comment**	**Quantitative**	**Comment**	**Quantitative**	**Comment**	**Quantitative**	**Comment**
					new measures taken so far.				
Welfare benefits attributable to the MSFD									
Direct and indirect benefit – improved welfare	**Recurrent (annually)**	**EUR 1 015.3 m/yr**	Benefit is the share of annual estimated benefits attributed to implementation of MSFD to date		Also likely to share in benefits from new business opportunities and innovations, but limited to date		Also likely to share in benefits from efficiency improvements in public policy and information base		

Methodology for calculation of quantified costs and benefits:

Administrative costs

Two types of administrative cost were identified:

- Costs for administrations stemming from the requirements to comply with the administrative provisions of the MSFD: to develop marine strategies, coordinate the monitoring of the marine environmnent, support the implementation of measures, carry out technical and socio-economic assessments and report to the public and the Commission.
- Cost for administrations for their participation in the common implementation strategy (CIS) process working groups.

The EU Standard Cost Model (SCM) was used to calculate the administrative costs, as follows:

Administrative cost = Σ P_N x Q_N – Σ P_R x Q_R

where **P** (for Price) = Tariff x Time; **Q** (for Quantity) = Number of businesses x Frequency;

and N – new obligations, R – removed obligations at EU/national level

For the **costs stemming from administrative provisions of the MSFD**, each parameter was assessed as follows:

Tariff: The tariff is based on total annual labour costs provided by Eurostat for the category 'public administration and defence; compulsory social security' for the year 2020[2]. That figure was increased by 25% to account for overhead. This amounts to an annual average tariff for all Member States of EUR 62 903.75.

Time: Time is required by public administrations to implement the administrative requirements of the MSFD. This time was assessed in two ways.

Member State administrations were asked via a targeted survey carried out in 2021 as part of the evaluation support study to estimate the annual time spent to carry out the administrative activities required by the MSFD. Administrations in the Member States do not systematically track or report the amount of time they spend on the activities deriving from the legal provisions of the MSFD, many of which are implemented in tandem. To faciliate estimates by Member State administrations, the activities were grouped into five aggregated tasks.

Average annual FTE per Member State is based on replies from nine Member State administrations: BE, BG, HR, CY, DE, IE, IT, NL, SE.

Aggregated task	Marine strategies	Monitoring	Reporting to the public/ Commission	Supporting the implementation of measures	Technical and socio-economic assessments	**Total**
Average annual FTE per Member State	9.60	13.83	4.37	7.73	9.95	**45.48**

The total average annual time spent by Member State administrations to meet the administrative obligations required by the MSFD was therefore estimated at 45.48 annual FTE.

Quantity: Costs were considered for the 22 Member States with a coastline, who carry out the administrative activities under the MSFD.

Frequency: the costs are measured and presented on an annual basis as this was considered the most accurate way to collect estimates from administrations, which operate on the basis of annual budgets.

Based on these parameters and the SCM formula, annual costs were calculated as follows:

P = Tariff (62 903.75) * Time (45.48) = 2 861 072.23

Q = Number of administrations (22) x Frequency (1 x per year) = 22

Administrative cost = P (2 861 072.23) * Q (22) = 62 943 589.04

All of the obligations of the MSFD included in this calculation are considered to be new, established as part of setting up an EU-wide, harmonised dedicated framework for monitoring and management of marine areas that did not previously exist. No obligations were removed.

[2] Eurostat's Labour Cost Survey, category 'public administration and defence, compulsory social security' total costs for the EU-27 per employee FTE; latest data available are for 2020. Dataset 'Labour cost, wages and salaries, direct remuneration (excluding apprentices) by NACE Rev. 2 activity [lc_ncost_r2__custom_9986108]' downloaded on 21.02.2024 from Eurostat.

For the **cost for administrations for their participation in the common implementation strategy (CIS) process working groups,** each parameter was assessed as follows:

Tariff: The same annual average tariff for all Member States used for the MSFD administrative obligations above was used: EUR 62 903.75.

Time: Member States participate in the CIS, which coordinates the implementation of the MSFD across Member States and regions. The CIS is composed of several working groups (Marine Directors, MSCG, WGs, TGs) (see Section 3.3.1). The labour costs of participating in WGs are considered to be additional, given that this is technically a voluntary activity.

Member States' personnel requirements for participation in the CIS were estimated based on the number of meetings and workshops of each group involved in the CIS, using information collected from documents detailing the yearly planning of CIS activities, agendas and syntheses of meetings and workshops (available on the CIRCABC website). For Marine Directors and the MSCG, Member States' staff time spent in the CIS process was based on the total number of meetings and workshops per year since 2009, the average duration of meetings (in number of half-days) and the average number of participants per Member State. Where the list of participants was not available on CIRCABC, it was assumed that, on average, one representative from each Member State attended the meeting. For WGs and TGs, the working time was calculated from the actual number of meetings, assuming that each meeting lasted two half-days and that one Member State representative attended.

For each group in the CIS, an average annual meeting time was calculated (for all Member States participating in the CIS process combined), as well as the total time spent on the CIS process per year, giving an estimated personnel requirement for CIS participation of 471 FTE per year.

Quantity: The method for caclulating the time covered all Member State participation in all working groups.

Frequency: the costs are measured and presented on an annual basis to be aggregable with the costs related to administrative obligations shown previously.

Based on these parameters and the SCM formula, annual costs were calculated as follows:

P = Tariff (62 903.75) * Time (471) = 29 627 666.25

Q = Number of administrations (1) x Frequency (1 x per year) = 1

Administrative cost = P (2 861 072.23) * Q (1) = 29 627 666.25

Adjustment costs

Two types of administrative cost were identified:

- Costs related to monitoring activities, including for field work, laboratory work, data management, maintenance, and transport.
- Costs of the measures taken to protect and enhance the marine environment

The methodology and approach for assessing each type of adjustment cost is described below.

For the **costs related to monitoring activities**, costs were identified through published reports and documents by four Member States, providing budgetary

estimates for marine monitoring. Based on the year of reference in the published report, these prices were converted to 2020 prices using Eurostat harmonised index of consumer prices (HICP) data[3]. To account for differences in monitoring requirements across Member States, average monitoring costs were calculated per unit of marine area (km^2) for the four countries for which monitoring cost figures were available. This approach resulted in an average monitoring cost per km^2 of marine area of EUR 55.05 per year, which allowed estimates to be calculated for all Member States[4].

These figures were then extrapolated to estimate the monitoring costs for all 22 Member States with a coastline.

Member State, source	**Cost of monitoring (EUR million/yr in 2020 prices)**	**Marine waters area (km^2)**	**Cost of monitoring per km^2 of marine area (EUR in 2020 prices)**
Croatia	1.67	55.492	30.11
Finland	6.23	82.466	75.33
Italy	13.00	587.155	22.14
Netherlands	5.44	58.847	92.42
Average			**55.05**

Sources:
Croatia: Matijević, S. 2019, Status of MSFD Monitoring in Croatia. https://harmonia.adrioninterreg.eu/wp-content/uploads/2019/02/Croatia_MSFD_Monitoring-IOF.pdf
Finland: Nygård et al., 2016, Price vs.Value of Marine Monitoring. https://www.frontiersin.org/articles/10.3389/fmars.2016.00205/full
Italy: Loudin et al., 2021. Financing the implementation of the EU MSFD:Issues and options. Final report
Netherlands: https://www.rijksoverheid.nl/documenten/rapporten/2021/03/18/5-ontwerp-mariene-strategie-voor-het-nederlandse-deel-van-de-noordzee-2022-2027-deel-3-programma-van-maatregelen

To create an estimate at EU scale, the average cost per km^2 was multiplied by the total area of marine waters in the EU, as follows:

Total km^2 of marine waters of 22 EU Member States (7 958 556) * average cost of monitoring per km^2 (55.05) = EUR 438 116 987.36

This figure is an estimate of the annual cost of all marine monitoring carried out in the EU. Following the incremental approach to assessing costs associated with the MSFD only, this figure was reduced to account for and not stemming from other policies. The main EU policy also requiring monitoring of marine areas is the Common Fisheries Policy (CFP), which requires inter alia monitoring of fish populations. The source from Finland on marine monitoring costs attributed 37% of costs to the CFP; this figure was used as a proxy for the extrapolated EU figure:

EUR 438 116 987.36 * share of marine monitoring costs attributable to MSFD (0.63) = EUR 276 013 702.04

[3] HICP – annual data (average index and rate of change) [prc_hicp_aind$defaultview], downloaded from Eurostat on 21.02.2024
[4] Information on the marine area for each Member State was extracted from the WISE-Marine database, https://water.europa.eu/marine/countries-and-regional-seas/country-profiles

The marine monitoring costs reported by the four Member States were based on budgetary allocations. It was considered fair to assume that these costs also include the portion of administrative costs estimated by Member States under the heading 'monitoring'. To avoid double-counting, the annual figure for marine monitoring was therefore reduced by the amount of administrative costs associated with monitoring:

Total costs of MSFD marine monitoring (EUR 276 013 702.04) – administrative costs linked to monitoring (EUR 19 143 707.92) = EUR 256 869 994.12

This gave a figure for annual adjustment costs for monitoring the marine area of EUR 256 869 994.12.

For the **costs of the measures taken to protect and enhance the marine environment,** costs were estimated on the basis of information provided by six Member States as part of the reporting on their second programmes of measures. These Member States provided estimates of one-off and recurring costs to implement new measures over 2022 to 2027. These costs were adjusted to reflect equivalent annual costs in EUR (using the average ECB Euro foreign exchange reference rate where necessary[5]) and in 2020 prices (using Eurostat harmonised index of consumer prices (HICP) data[6]).

Member State	**Cost of marine measures (EUR/yr in 2020 prices)**	**Marine waters area (km^2)**	**Cost of marine measures per km^2 of marine area (EUR in 2020 prices)**
Estonia	6 873 688	36 609	188
Finland	48 594 008	82 466	589
Latvia	348 963	28 348	12
Lithuania	1 303 382	6 437	202
Poland	110 602 593	33 142	3 337
Sweden	2 574.581	155 625	17
Average			**724.3**

Sources:
Estonia: Estonian Ministry of the Environment, 2023. ACTION PLAN FOR THE ESTONIAN MARINE STRATEGY - updated 2023 (English translation)
Centre for Environmental Studies, 2022. Estonian Marine Strategy Action Plan Update: Part 2 Socio-economic analysis of the Action Plan (English translation)
Finland: Ministry of the Environment of Finland, 2021. Finland programme of measures for the marine management plan for 2022-2027 (English translation).
Latvia: Annex 5 (Socio-economic assessment of accompanying measures) to Latvia's programme of measures to achieve good environmental status of the marine environment 2023 to 2027 (English translation).
Lithuania: Olenin, S. et al., 2022. Management of the Environmental Protection of the Baltic Sea in Lithuania Strengthening: Final Report (English translation)
Poland: Polish State Water Management Authority, 2022. Development of an update of the marine water protection programme, No. KZGW/KZW/2020/135.
Sweden: Swedish Agency for Marine and Water Management, 2021. Summary in English of the Swedish Report Marin strategi för Nordsjön och Östersjön, vsmiljön i Nordsjön och Östersjön 2022-2027 enligt havsmiljöförordning.

To maintain the incremental approach, the costs included as MSFD costs should include only those measures that were considered 'new and additional', meaning

[5] https://www.ecb.europa.eu/stats/policy_and_exchange_rates/euro_reference_exchange_rates/html/index.en.html; using the average exchange rate between the Euro and the Swedish krona and the Polish złoty over the period 01 January 2019 to 31 December 2020.
[6] HICP - annual data (average index and rate of change) [prc_hicp_aind$defaultview], downloaded from Eurostat on 21.02.2024

that they were not adopted under other policies linked to the marine area (e.g. the Urban Wastewater Treatment Directive) but were adopted solely as a result of the MSFD coming into force. The approach also took into consideration only those measures that Member States marked as having been fully completed.

The most reliable data on the annual costs of measures was found through the second round of PoMs reporting. It should be noted that Member States are not required to report on the investment costs of the measures they take under the PoMs, and it is therefore challenging to find reliable information on these costs. In order to develop costs assessments that would be comparable with the other costs calculated for the evaluation (i.e. annual figures in 2020 prices), the average estimate cost of EUR 724 per km2 of marine area was adjusted in several ways.

First, the figure was extrapolated to cover the entire EU[7], following the approach used for the costs of the measures:

Total km^2 of marine waters of 22 EU Member States (7 958 556) * average cost of measures per km^2 (724) = EUR 5 764 million

Second, the figure was reduced to account for only the share of measures that were considered by Member States to be both solely attributed to the MSFD and fully implemented. As this figure is not reported every year, a proxy was estimated based on the overall shares of measures classified as both 'new and additional' and fully implemented during the PoM two reporting periods since the adoption of the MSFD. Figures were reported separately for two reporting periods, as shown in the table. Since it was not possible to attribute the cost figures to a single year, it was decided to take an average of the shares from the two reporting periods.

Reporting period	**Share of measures new and additional**	**Share of measures fully implemented**	**Share of new and additional measures fully implemented**
1st PoMs (2012-2018)	25%	16%	4%
2nd PoMs (2018-2022)	42%	21%	8.84%
Average			**6.42%**

Thus, it is assumed that 6.42% of the estimated annual cost of measures is fully attributable to the MSFD and fully implemented. This is not a perfect method, but a reasonable way of estimating incremental costs with the data available. The figure is calculated as follows:

Total estimated annual costs of measures (EUR 5 764 million) * Share of measures new and additional and fully implemented (6.42%) = EUR 370 million.

Welfare benefits

As discussed in Annex 2, capturing, quantifying and monetising the benefits of the MSFD is enormously challenging. Monetary estimations of the expected benefits of fully achieving GES are based on Member States' valuation studies for estimating the societal benefits that result from improvements in the ecological status of marine ecosystems and the achievement of GES. These rely on stated preference methods (i.e. choice experiment and contingent valuation) and value transfer to estimate WTP per household and person. Those stated preference studies asked respondents to express their preferences between several scenarios presenting different states of the marine environment reflected through a diversity of benefit characteristic (or so-called attributes). The attributes reflect (groups

[7] The total area of marine waters of 22 EU Member States (7 958 556 km2) is calculated based on the addition of the total area of marine waters of each individual Member State as provided by the European Enviornmental Agency on the country profiles of the WISE-Marine website: https://water.europa.eu/marine/countries-and-regional-seas/country-profiles

of) MSFD descriptors, for example biodiversity, eutrophication, invasive species, that are seen as the most problematic for the marine area that is the focus of each study.

Statistical inference of the data allowed the measurement of the value people attach to improvement in environmental conditions through the concept of individual WTP, defined as the maximum amount of money an individual is prepared to give up for an improvement in environmental conditions, which represents the benefits of a change in environmental status in monetary terms[8].

Figures shown in the table are adjusted to 2020 prices based on Eurostat HICP data (using the same approach as for the costs in the previous section). Due to that fact that these figures represent amounts people are willing to pay, they were further adjusted for purchasing power parity data (comparative price level indices (PLI)) from Eurostat[9].

Member State	**Attributes**	**Adjusted individual WTP (EUR/yr, 2020 prices, rounded to nearest Euro)**
Germany	Eutrophication; biological diversity; non-indigenous species; fish stocks; hazardous substances; physical impacts; littering	59
Estonia	Frequency of large-scale oil and chemical spills; probability that oil and chemical pollution reaches the shore; water quality; non-indigenous species	39
Greece	Species status; beach development; MPA zoning; Posidonia Oceanica state; non-indigenous species warnings	57
Finland	Eutrophication; biodiversity; fish stocks; hazardous substances; physical impacts	92
France	N/A	18
Croatia	Biodiversity; water quality; recreation	7
Spain	N/A	20
Ireland	Biodiversity and healthy marine ecosystem; sustainable fisheries; pollution levels; non-native species; physical impacts	23
Italy	Biodiversity; water quality; recreation	60
Latvia	Reduced number of native species; water quality for recreation; new harmful alien species' establishing	11
Portugal	N/A	31
Sweden	N/A	8
Slovenia	Biodiversity; water quality; recreation	73
Average		**38.39**

Sources:

Germany: Oehlmann, M., Nunes-Heinzmann, A-C., Bertram, C., Hellwig, R., Interwies, E., Meyerhoff, J., 2021, The value of the German marine environment. Costs of degradation of the marine environment using the example of the German North Sea and Baltic Sea, German Environment Agency,

[8] The Willingness To Pay method aims to measure the 'cost of not achieving GES (prevented degradation)' as well as the positive benefits of achieving GES. It represents all aspects of environmental status that would have occurred beyond the business-as-usual scenario (BAU) if GES were achieved. The avoided costs of degradation that would occur in a 'BAU' scenario if no implementation of the MSFD would be included in the GES scenario.

[9] https://ec.europa.eu/eurostat/databrowser/view/PRC_PPP_IND__custom_3910555/default/table?lang=en

https://www.researchgate.net/publication/354438628_The_value_of_the_German_marine_environment_Costs_of_degradation_of_the_marine_environment_using_the_example_of_the_German_North_Sea_and_Baltic_Sea_-_Final_Report
Estonia: Tuhkanen, H., Piirsalu, E., Nõmmann, T., Karlõševa, A., Nõmmann, S., Czajkowski, M., & Hanley, N., 2016, 'Valuing the benefits of improved marine environmental quality under multiple stressors', *Science of The Total Environment*, 551, 367-375.
Greece: Halkos, G., & Galani, G., 2016, *Assessing willingness to pay for marine and coastal ecosystems: A Case Study in Greece*, https://mpra.ub.uni-muenchen.de/68767/1/MPRA_paper_68767.pdf
Finland: Nieminen, E., Ahtiainen, H., Lagerkvist, C. J., & Oinonen, S., 2019, 'The economic benefits of achieving Good Environmental Status in the Finnish marine waters of the Baltic Sea', *Marine Policy*, 99, 181-189.
France, Spain, Ireland, Portugal: Norton, D. & Hynes, S., 2018, 'Estimating the benefits of the Marine Strategy Framework Directive in Atlantic Member States: a spatial value transfer approach', *Ecological Economics,* 151, 82-94.
Croatia, Italy, Slovenia: European Commission, European Climate, Infrastructure and Environment Executive Agency, Ruskule, A., Dworak, T., Zamparutti, T. et al., 2021, *Study on integrating an ecosystem-based approach into maritime spatial planning: project case-study reports*, Publications Office of the European Union, Luxembourg, https://data.europa.eu/doi/10.2926/17446 p. 295.
Latvia: Pakalniete, K. et al., 2013, '*Valuing benefits of reaching the MSFD targets by applying the. Choice Experiment' method. Latvian study report*. Report of the GES-REG project. AKTiiVS, http://gesreg.msi.ttu.ee/en/results

Assuming that the value the average European citizen attaches to improvement of the marine environment brought about by the achievement of GES is EUR 38.39 per year, a total figure was calculated by multiplying this with the population of the 22 Member States[10] with a coastline, as follows:

Total population of the 22 EU Member States, 2020 (412 036 721) * Value of marine improvements from achievement of GES per citizen (38.39) = EUR 15 818 089 719.19

The (incremental) environmental benefits directly attributable to the MSFD will stem from the implementation of new measures. Given the current share of implemented new measures (6.42 % of total PoMs based on the average of two reporting cycles) and the fact that benefits will not accrue immediately as it will take several years for ecosystems to recover after PoMs are implemented, it is assumed that the actual environmental benefits of the MSFD are relatively limited to date. To get an estimate of the annual benefits accrued to date, the same proxy that was used to adjust the costs of measures has been applied to the estimate of benefits of full achievement of GES:

Estimated annual benefits of full achievement of GES (EUR 15 818 089 719.19) * Proxy for share of benefits attributable to the MSFD and accrued to date (6.42%) = EUR 1 015 286 569.66.

[10] Eurostat, tps00001, Population on 1 January, accessed 13.02.2024

Table 6. Simplification and burden reduction (savings already achieved)

PART I:* S*implification and burden reduction (savings already achieved)								
	Citizens/Consumers/Workers		**Businesses**		**Administrations**		**[Other…] _ specify**	
	Quantitative	**Comment**	**Quantitative**	**Comment**	**Quantitative**	**Comment**	**Quantitative**	**Comment**
Title[11] *[Select among: (i)* d*irect compliance cost savings (for example adjustment cost savings, administrative cost savings, savings from regulatory charges); (ii) enforcement cost savings (for example cost savings associated with activities linked to the implementation of an initiative such as monitoring, inspections and adjudication/litigation); (iii) indirect cost savings (if possible - for example indirect compliance cost savings or other indirect cost savings such as transaction cost savings).*								
Type: Recurrent	--	--	--	--	Not quantified	Some efficiency improvements expected due to improvements in collaboration across EU regions and MS. Lack of baseline and concrete measurement of these effects makes quantifification impossible at this time.	--	--
PART II: Potential simplification and burden reduction (savings)								

[11] Each simplification/saving should be included on a separate line.

	Citizens/Consumers/Workers		Businesses		Administrations		[Other…] _ specify	
	Quantitative	**Comment**	**Quantitative**	**Comment**	**Quantitative**	**Comment**	**Quantitative**	**Comment**
Description: Improvements in coordination of monitoring through improved indicator sets, further harmonisation within or across marine regions and use of more innovating monitoring techniques								
Type: Recurrent					**Up to EUR 9.6m/yr**	This represents 50% of the current reporting costs for Member States for the administrative coordination of monitoring activities.		
Description: Reduction of reporting requirements due to more efficient monitoring and data collection techniques and removal of redudant or less effective requirements; improvement of organisation of reporting between EU, regional and Member State levels								
Type: Recurrent					**Up to 3.0 million/yr**	This represents 50% of the current reporting costs for Member States for MSFD reporting.		

ANNEX V. STAKEHOLDERS CONSULTATION - SYNOPSIS REPORT

Consultation activities served the dual objective of collecting the evidence necessary to answer the evaluation questions and providing sufficient opportunities to all interested parties to input to the evaluation. The consultation activities formed part of the overall consultation strategy set out for the back-to-back evaluation-impact assessment procedure initially defined in the 2021 roadmap. As the evaluation was subsequently decoupled from the impact assessment procedure in 2022, this synopsis report covers the consultation activities carried out to support the evaluation.

The objective of the consultation activities was to complement the evidence and analyses based on existing data and literature review. Activities aimed to capture the experience, views and ideas of relevant stakeholders involved in, and impacted by, the MSFD. These consultations became a key component to gathering information to support the evaluation of the MSFD. They also embedded the necessary transparency, ensuring all interested stakeholders and citizens had an appropriate opportunity to participate. Citizens, experts and stakeholders were consulted in particular:

a. on the main issues covered by the evaluation, and

b. to gather knowledge about the implementation of the MSFD and the coordination it requires.

The following stakeholder groups were identified as having a role in the implementation of the MSFD, having an interest in it, being impacted by it, or some combination of these factors. All of these groups were contacted as part of the consultation activities:

- **EU Member States and their public authorities** play a key role in implementing the MSFD. Public authorities are not only responsible for the development and implementation of marine strategies, but must also fulfil the reporting requirements set out in the Directive. These include **Working Groups and Technical Groups** under the MSFD common implementation strategy (CIS).
- **Economic operators** who may be impacted by the MSFD, primarily the fisheries sector, but also infrastructure (e.g. ports and energy installations), agriculture, tourism and others. The operators of those activities are generally not directly involved with the development and implementation of marine strategies, but some participate as observers in the implementation of the MSFD.
- **Civil society organisations and NGOs** have a keen interest in the MSFD and ocean governance, and their perceptions of the MSFD procedure and legislation were important, particularly the Directive's effectiveness as an instrument to protect and preserve the marine environment. NGOs can shed light on the coherence of the legislation and policy with other sectors, and provide an understanding of the direct and indirect costs and benefits, EU added value, etc. These groups are often directly involved in the public participation procedures provided for by the Directive.
- **Regional Sea Conventions (RSCs)** predate the MSFD and provide a cooperation structure to protect the marine environment, bringing together Member States and neighbouring countries that share the same marine region. Not only do they include non-EU Member States, they offer a wealth of experience and information built up over decades. In some cases, they are an operational part of the MSFD, supporting Member States to comply with its provisions. Other **international organisations** relevant to the Directive were also contacted.
- **Academia**, research and innovation organisations and institutes may have data, observations, or studies relevant to the MSFD review. Many academic experts work for national institutions carrying out research to support the implementation of the MSFD,

including **experts' networks** supporting the CIS MSFD.

- **Citizens** have the right to be kept informed of marine strategies and to show their interest in the marine environment and the ecosystem services it provides. They are often highly aware of ocean health, with numerous awareness campaigns carried out to reduce litter and pollution, or to protect marine species.

Consultation activities took place between April and November 2022, and comprised the feedback to the roadmap, an online public consultation, targeted consultations (a targeted survey and a range of focus group interviews), a stakeholder conference, a territorial impact assessment (TIA tool under a contract with DG REGIO) and a stakeholder workshop on the review.

1. Roadmap feedback

The combined roadmap/inception impact assessment outlined the planning for the MSFD review. This planning document was published on the 'Have your say' website in April 2021. An open feedback mechanism allowed stakeholders and the public to express their general views during a four-week period (8 April-6 May 2021). Its aim was to inform citizens and stakeholders about the Commission's work and to give them the opportunity to provide feedback on the intended initiative and participate effectively in future consultation activities. The roadmap covered the context of the evaluation and a brief presentation of the five evaluation criteria, as well as the problem the MSFD seeks to tackle and possible solutions. It also made available any relevant information, including possible impacts of the different options.

It is noted that this call for feedback on the roadmap was done in accordance with the Better Regulation Guidelines prior to the November 2021 updates (which requires a 'call for evidence').

Overall, 104 responses were collected, comprising roughly 65% EU citizens (67 of 104), 20% NGOs (21 of 104), 10% business (11 of 104) and 5% scientists/academics (5 of 104). 80% of the EU citizens' replies (54 of 67) came from France and the rest from seven other Member States. There was no clear campaign or wide-scale instances of repeating text, and the responses were relatively well-informed, including facts and technical details. The roadmap feedback was compiled in a word cloud, reflecting all of the responses received and most frequently recurring issues mentioned (see Figure).

Figure 11. Word cloud of most frequently recurring issues among responses received

All citizens' replies advocated for a stricter protection of European seas. Most highlighted concerns regarding the marine environment, while just over half referred to preferred management measures or policy options. The vast majority of submissions addressed fisheries (especially industrial or large-

scale), while other topics mentioned included threats to marine mammals, pollutants (including plastics) and offshore wind.

All NGOs and environmental organisations highlighted the crucial role and the added value of the MSFD, although most acknowledged the very slow national implementation of the Directive. All NGOs called to strengthen the MSFD and its implementation, and to reach GES as soon as possible. Two-thirds of the NGOs (12 of 18) expressed a preference to avoid changing the legal text.

Business representatives submitted varied views. The fisheries sector highlighted the achievements of fisheries management measures under the CFP but called to increase the effectiveness and efficiency of the MSFD, set more specific objectives and to improve policy coherence. All sectors highlighted a need for more policy coherence with the MSFD.

Academics highlighted the role of the MSFD when applying the ecosystem-based approach across all policies (fisheries, blue economy, maritime spatial planning) and the need for a stronger Directive and management measures. Some also called for a stronger focus on human health and role of local authorities.

2. Online public consultation

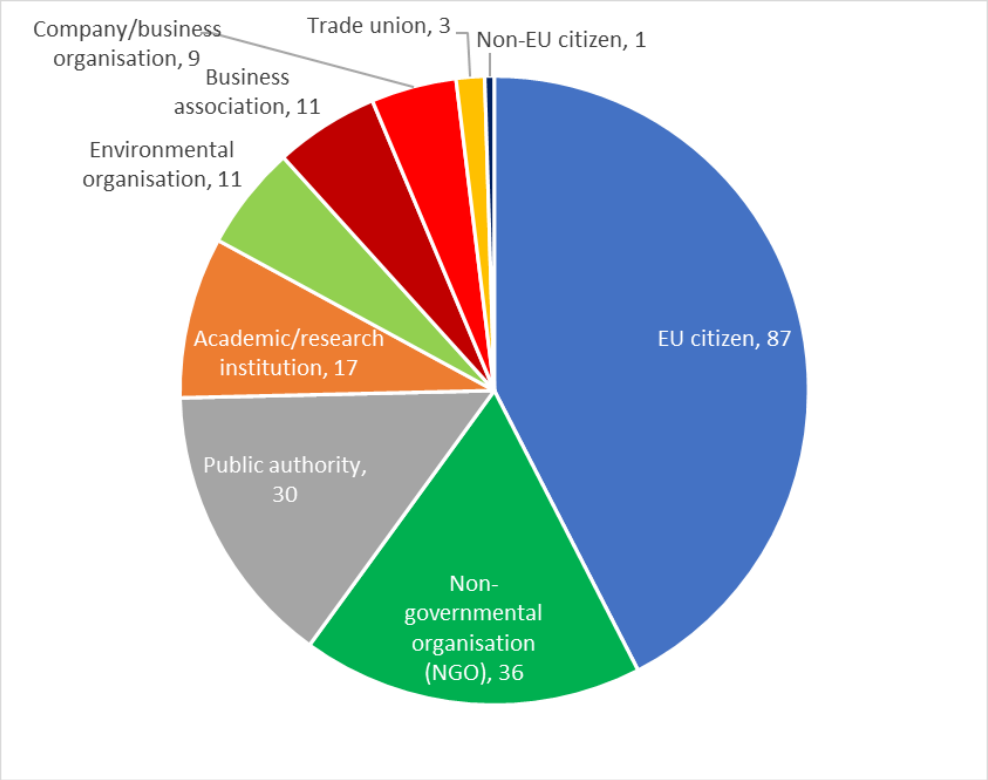
A 12-week online public consultation sought the views of citizens and civil society on the implementation of the MSFD, according to the Commission principles and standards set out in the BRG. The consultation was open to all and aimed to reach the broadest possible range of stakeholders. The online public consultation covered both the evaluation of the MSFD and the development of possible policy options and assessment of their impacts. It ran from 22 June – 21 October 2021 and was available in all 23 official EU languages.

The online public consultation comprised a questionnaire addressing key elements of the review in order to get views, opinions and, where possible, evidence to contribute to the assessment of the Directive. The questions covered all evaluation criteria and a wide range of future options and impacts, with care taken to ensure that questions were clear and unambiguous, comprehensive but not discouragingly so. A mix of open and multiple-choice questions was used to ensure that results would be easily comparable but flexible enough to gather other perspectives and examples.

The questionnaire consisted of two sections, both of which were publicly accessible. The general part targeted citizens with an ordinary level of knowledge, while respondents with particular expertise or interest were encouraged to fill in the specialist section as well.

The online public consultation was accessible on the Commission's public consultation portal, including links to background documents and relevant websites. Information on the launch of the online public consultation was disseminated through appropriate communication means (e.g. social media, mailing lists, information to WGs, etc.). A total of 205 responses were received, primarily from EU citizens, NGOs and public authorities (see Figure). 155 replied to at least some questions of part II, while 50 replied to the part I only. Just over half of the responses to the survey (51%, 104 out of 205) were given anonymously. NGOs often gave their answers publicly, whereas citizens, public authorities and companies tended to reply anonymously.

Figure12. Types of stakeholders responding to the online public consultation, (n=205)



At the end of the online public consultation period, the results were summarised in a factual summary report and considered throughout this document, as appropriate[12].

Some of the key findings are presented below:

- Most respondents (74%, 150 out of 202 respondents) had an unfavourable opinion of the state of Europe's marine environment, stating that the seas are 'not good'. EU citizens (72 out of 87) and NGOs (34 out of 36) made up the largest share with this view, whilst 100% of the environmental organisations (10) agreed with this.
- Overall, the respondents considered all of the MSFD objectives to be valuable: at least 94% of all respondents believed these objectives are 'moderately important' or 'very important'. Respondents mainly considered the following objectives to be very important: to prevent and reduce pollution in the marine environment (95%, 192 of 203), to protect and preserve the marine environment (93%, 190 of 204), and to prevent deterioration and restore marine ecosystems (93% 189 of 203). Another objective considered 'very important' is to achieve or maintain good environmental status (89%, 179 of 201).
- A significant share of respondents (48%, 95 of 200) thought their country would not have developed a national marine strategy without the MSFD. This view was most prevalent among NGOs, environmental organisations, and EU citizens. Only 6% of the respondents (12 of 200) believed that their country would have one of similar or greater quality and ambition.
- The development of strong and integrated marine strategies to protect the marine environment is the benefit most immediately associated with the MSFD by respondents; this received the highest percentage of 'very important' responses (51%, 101 of 199). Contribution to the EU's

[12] The more forward-looking questions on whether and how to address certain issues with the Directive will be considered at the impact assessment stage.

global commitments; monitoring mechanisms and the establishment of marine protected areas also received relatively high shares of very positive responses.

- Overall, 73% of the respondents (106 of 146) agreed that the concept of good environmental status is the correct one to steer the MSFD. Only 4% (6 of 146) believed this is not the case. A significant portion of public authorities (42%, 10 of 24) were not sure.
- Most of the stakeholders (102 of 147) would have liked to see the process of determining GES in MS marine waters happen together with stronger minimum requirements/guidance provided by the EU. Only 13% (19 of 147) believed Member States should not set the characteristics and boundaries, of which public authorities had the highest share.
- Around two-thirds of the respondents identified insufficient effectiveness or actual implementation of the programmes of measures (99 of 151), and inadequate governance (96 of 152) as very important obstacles hindering the achievement of good environmental status for all descriptors.
- Overall, 58% of the respondents (84 of 145) consider the actual implementation costs of the MSFD 'affordable'. NGOs and environmental organisations had the highest shares of the stakeholder groups who hold this opinion. Only 18% (26 of 145) believed the costs are cumbersome, mostly made up of EU citizens (12 of 57) and public authorities (7 of 24).
- According to a significant majority (80%, 116 of 145), the added value of the MSFD far exceeds the efforts of implementing it. The responses were similar across the five biggest stakeholder groups.
- Respondents generally had mixed views regarding the role of the MSFD in strengthening coordination within marine regions. Responses were most negative regarding the Black Sea region, but more positive for the north-east Atlantic and Baltic Sea regions.
- Respondents noted many significant gaps, overlaps and/or inconsistencies between the MSFD and EU environmental legislation/policies. In total, most issues were mentioned regarding the Birds and Habitats Directives (193 of 205), followed closely by the Nitrates Directive (167 of 205), and REACH and other chemical legislation (161 205). The fewest problems were found for the European Green Deal initiatives (e.g. Biodiversity Strategy, Zero Pollution Action Plan, Farm to Fork), for which 56 of 205 replies indicated that there are no problems at all.
- With almost 90% of the responses (129 of 144), there was near consensus among the stakeholders that the MSFD is very important to maintain a dedicated EU framework for the integrated protection and sustainable use of the marine environment. This included 91% of the EU citizens (51 of 56), and 100% of the NGOs (28), environmental organisations (8) and companies/business organisations (3). There were no responses stating that the MSFD is not at all important in this regard.

3. Targeted consultation

Targeted consultation activities addressed a narrower group of stakeholders and experts involved in or impacted by the MSFD. The approach took into account existing CIS networks and WGs as an efficient and effective way of reaching these stakeholders. The following activities were implemented between June 2021 – January 2022:

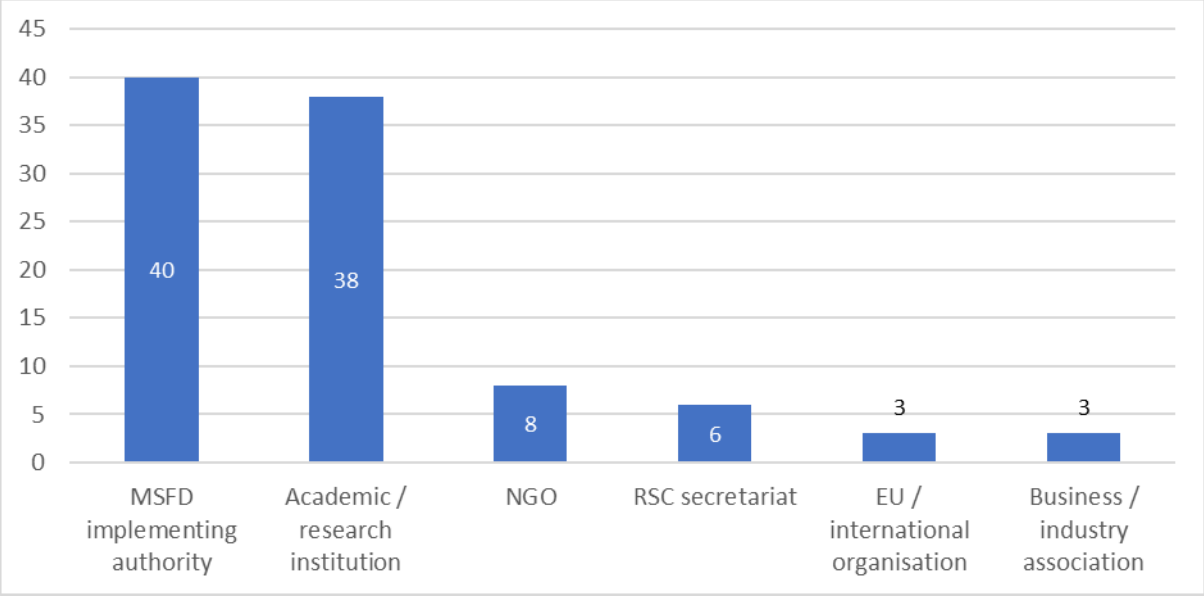
- **Targeted Survey** to authorities/CIS experts
- **Focus Group interviews** with different groups of stakeholders covering the relevant sectors, institutional bodies and competent authorities for the MSFD, and NGOs

3.1 Targeted survey to authorities/CIS experts

To complement the desk research and public consultation, an online targeted survey was addressed to the authorities and experts participating in the CIS WGs. The targeted survey was structured according to the evaluation criteria and was based on the evaluation questions proposed by the Commission. It contained a combination of closed and open questions, allowing some quantification of responses, while enabling the collection of opinions, examples and evidence.

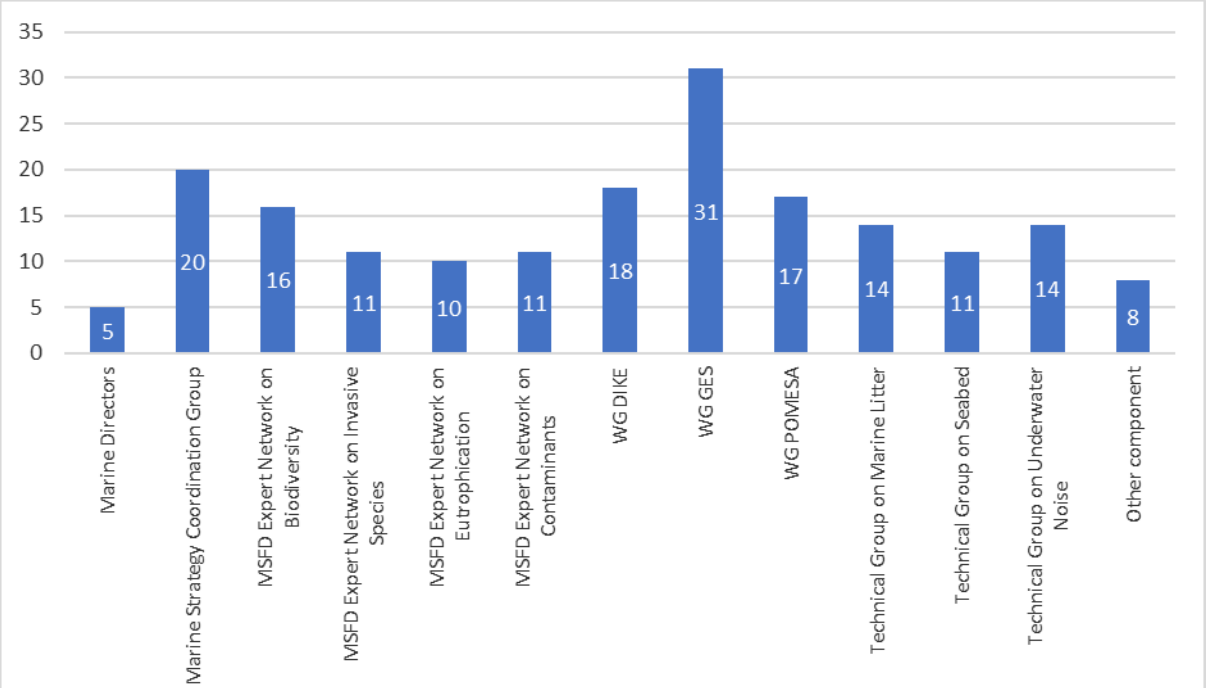
The targeted survey was sent to all members and observers to the CIS. This comprised Member State representatives, NGOs and business associations, EU-level bodies (including the Commission, the JRC, RSC secretariats), and academics/research institutions. A total of 473 individuals were invited by the study team, while a further 420 individuals were in parallel invited from the JRC Expert Networks, with potential overlaps between the two groups[13]. The survey ran online from 1-28 October 2021. 98 responses were received, chiefly from MSFD implementing authorities (40) and research institutions or academics (38). The respondents covered a range of CIS components, often covering more than one area (see Figure and Figure).

Figure 13. Types of stakeholders responding to the targeted survey, (n=98)



[13] These experts were contacted directly by the JRC and it is not clear how many of the same recipients were also contacted by the study team.

Figure 14. CIS affiliation of respondents to the targeted survey, (n=96, multiple answers possible)



Note: 'other' components usually referred to work on specific MSFD descriptors rather than specific groups (e.g. D1, D3, D4, D10, D11), although one respondent listed HELCOM EG MAMA[14]. Three respondents did not clarify 'other'. All but two of the eight respondents also listed other CIS components.

Some of the key findings are presented below:

- Most respondents (81%, 79 of 98) felt the MSFD has led to higher protection and preservation of the marine environment. NGOs, academic/research institutions and business/industry associations were less positive than other stakeholder groups.
- Most respondents considered that measures to improve knowledge/data and regional coordination were at least somewhat effective (81 and 72 out of 98, respectively). Only 23 respondents of 98 though measures to improve the marine environment were very or moderately effective.
- Most respondents considered that the MSFD has improved regional cooperation at least by a limited extent with regard to the encouragement of regionally coherent threshold values, better understanding of marine management needs across regions (both 87 of 98), and the strengthening of cross-border coordination on assessment and understanding (79 of 98).
- Most respondents felt the MSFD has improved the level of knowledge and data collection on marine issues, for example by improving/establishing a marine knowledge framework at national or regional level, improving the overall knowledge of the state of Europe's marine waters, or increasing the priority for research on the protection of the marine environment. On the other hand, only 25 of 94 respondents thought it had reduced costs of integrated monitoring to at least a moderate extent, while only 54 of 96 respondents thought it had led to improved knowledge of sustainable marine management in other areas to at least a moderate extent.

[14] HELCOM expert group on marine mammals.

- 78% of respondents (67 of 86) considered a lack of political will at least moderately significant when considering the challenges in regional cooperation. A lack of flexibility in the MSFD to use lessons learned during implementation was considered at least moderately significant by only 32 of 84 respondents.
- A lack of funding and human resources was considered at least a moderately significant challenge when considering data collection and/or knowledge by 87 and 82 of 90 participants respectively.
- When adopting and implementing the MSFD, the following costs were most often identified by respondents: time and cost to report to the European Commission, costs required to set and implement the MSFD planning process, and costs associated with the additional assessments required.
- The greatest benefits identified by respondents included: greater coordination of national, regional, and EU levels, contribution to the EU's global commitments to protect the marine environment, a more efficient monitoring of marine ecosystems and of the human pressures affecting them, and more transparency, data availability and shared knowledge to support marine management at all scales.
- 41 of 91 respondents feel data are moderately harmonised. Only 1 responded that data are well harmonised.
- Most respondents feel reporting under the MSFD is sufficiently aligned (at least to some extent) with the WFD (58 of 91). This was significantly more than the Birds and Habitats Directive, Common Fisheries Policy/fisheries data collection framework and the MSP Directive.
- The greatest challenges identified when reporting under the MSFD were identified by respondents as limited human resources (54 of 81 respondents) and time availability – meeting reporting deadlines (46 of 81).
- The main benefit of the European Commission's assessment and recommendations based on Member State reporting was identified as the improved MSFD planning process (assessments, monitoring, selection of measures), which benefits Member State authorities.
- 47% of respondents (46 of 98) considered the concept of GES valid while 43% (42 respondents) disagreed. When asked to explain their response, stakeholders most frequently selected 'impossible to reach within a fixed deadline' (26 of 41), 'not harmonised at EU level' (16 of 41), and 'too complex to monitor and enforce' (12 of 41)
- A significant share of respondents identified the presence of gaps, overlaps or inconsistencies with the WFD (98 of 125), while only 89 of 120 identified any with the Birds and Habitats Directives. Other legislation was infrequently identified by respondents as having problems.
- 94 of 131 respondents identified the presence of gaps, overlaps and/or inconsistencies with the common fisheries policy and the MSFD. 54 of 109 respondents identified such presence with the MSP Directive. Other EU sectoral policies were more infrequently identified by respondents as having problems.
- 64 of 98 respondents identified the presence of gaps, overlaps and/or inconsistencies with the RSCs, while 59 identified the same with the IMO conventions. Other agreements included the Convention on Biological Diversity (52 of 98) and the Ocean-related Agenda 2030 and the SDGs (43 of 98).
- Most respondents believe it is unlikely that Member States could have achieved the same or better marine outcomes without the MSFD

3.2 Focus Group interviews

To complement the responses to the targeted survey, nine focus group interviews were carried out in December 2021 (a final focus group was carried out in the second week of 2022). Participants were chosen together with DG ENV, based on activity in the CIS and the MSFD review. All Member State authority members of the MSCG were invited and split into three sessions according to their availability. A total of 10 Member States participated in the focus groups. Several other Member State representatives were unavailable and were invited to submit written responses, but no such responses were received.

Nine focus group interviews were carried out:

- EU Bodies (four different organisations)
- DG ENV (one organisation)[15]
- Member States (10 Member States over three sessions)
- NGOs (six organisations)
- RSCs (three organisations)
- Science-policy (three organisations, comprising international scientific bodies)
- Industry (10 organisations)

The purpose of the focus groups was to fill remaining information gaps and to probe the responses of the targeted survey. Interviews were semi-structured, relying on a pre-established interview guide with common themes and questions, adapted to the type of stakeholder. Each focus group lasted 3-4 hours.

Each focus group had a slightly different objective, however, the following topics were discussed:

- The state of Europe's oceans, including the limitations to achieving GES in certain areas/for certain descriptors, and climate change;
- The role of MPAs;
- The achievements of the MSFD (and the extent to which the MSFD is solely responsible for them), for example the Single-Use Plastics Directive, the amount, quality, and coherence of data/knowledge, communication and the breakdown of silos, public awareness, the establishment of a coherent framework for marine protection;
- The approach of the MSFD, for example, the overall objectives, the quantification of GES, the quality of the environmental targets (and the barriers to setting them), the over-abundance of data/knowledge collection measures in the PoMs compared to 'hard' measures, the 2010 and 2017 GES Decisions;
- The relationship between the MSFD and other sectors/legislation, both in terms of synergies and conflicts, for example when measures fall under jurisdictions of other authorities/actors, streamlining of monitoring/reporting obligations and outputs, conflicting/misaligned objectives and scope, as well as the potential for harmful subsidies;
- The implementation of the MSFD, including barriers to full implementation (as well as possible changes to mitigate them), enforcement, the focus on the procedural aspects of the Directive, the effectiveness of measures, funding, the evolution and understanding of the ecosystem-based approach, the role of the CIS, data and knowledge gaps, costs (both direct and indirect, e.g. monitoring, reporting, administrative measures), reporting timelines;
- Regional cooperation, especially with regard to progress seen between the first and second

[15] Unlike the other Focus Groups, this was composed of participants from a single institution, due to availability.

reporting cycles, the role of RSCs (including differences between marine regions).

- (Indirect) costs of measures to Member States and economic sectors, including adjustment costs, uncertainty, monitoring and reporting efficiency,

3.3 Stakeholder conference

DG ENV held the 2021 MSFD Conference on 17 December 2021[16]. A total of 222 participants streamed the conference, out of 342 who registered. Participants mainly came from Belgium, Italy, Spain, Germany, Netherlands, France, Portugal, Greece, Sweden and Ireland, with 53 participants coming from other countries.

The agenda of the conference included two plenary sessions: 'State of our seas' and 'the MSFD – state of play'. These were followed by two breakout sessions.

- Theme A: Achieving GES of EU seas:
  - A1: Objectives and timeline
  - A2: A coherent framework
  - A3: Taking action – Measures
- Theme B: making the Directive work
  - B1: Designing the law to achieve the objectives
  - B2: Implementing the Directive – working together
  - B3: Communication and enforcement

Speakers included representatives of the EU institutions[17], Member States[18], NGOs[19], the RSCs[20], and scientists. Speakers stressed that the state of Europe's oceans is dire, and action is needed to reduce the pressures and mitigate the situation. The role of the ecosystem-based approach was mentioned, along with the need to take a holistic approach within a coherent framework.

Other themes raised by speakers included the barriers and implementation of the MSFD (for example, data collection, the timelines and milestones, political will), coherence with other EU policy and sectors (especially fisheries), and barriers to achieving GES. The fundamental concepts of the MSFD were also discussed, with regard to the ambition and the structure of the Directive; the timeline for implementation; the definition of key MSFD concepts; and enforcement. Another theme raised by several speakers was the need to push the MSFD forward, including ensuring it becomes/remains a political priority, as well as the need for coordination and the break-down of silos.

Other speakers spoke of the role of regional cooperation, the RSCs, and the exchange of views and information between Member States within the same marine region. The alignment of the outputs of both the RSCs and the MSFD were discussed, as was the ambition of both.

3.4 Ad hoc contributions

- **CIS Working Groups** were informed and consulted
- **Ad hoc group** on the MSFD Review held several meetings in 2022
- **Stakeholder Workshop** in November 2022
- **Territorial Impact Assessment** in May/June 2022

[16] https://ec.europa.eu/environment/events/future-our-seas_en
[17] DG Environment, DG Maritime Affairs and Fisheries, European Parliament, EEA, Committee of the Regions, European Court of Auditors
[18] Ireland, Sweden, Netherlands, Spain, Denmark, Romania, Slovenia
[19] Seas at Risk, Oceana, International Council for the Exploration of the Sea, CTN – Marine Technology Centre, IFREMER, Coalition Clean Baltic
[20] HELCOM, OSPAR, UNEP-MAP

3.5 Feedback from EU decentralised agencies

Representatives from EU institutions were extensively consulted during the consultation activities. This included, in particular, the JRC and the EEA. Representatives from both agencies were invited to participate in all consultation activities, in particular the focus group interviews. Discussions focused on the state of the marine environment and the collection/processing of data, in particular those collected by Member States under the MSFD. The input from both the JRC and the EEA has been reflected throughout the evaluation and the support study.

3.6 Feedback from national, regional, local authorities

Member States were invited to participate in the consultation activities set out in this synopsis report. Out of all public authorities that responded to the online public consultation (30), the majority had a national (13) and regional (12) scope. Most originated from Spain, Portugal (6 each), and Germany (5).

Member State CIS representatives were invited to participate in the targeted survey and the online focus groups. Input was focused on the implementation of the Directive in their respective Member States, in particular the costs and benefits, as well as the relevance and the effectiveness of the Directive. A number of CIS representatives have extensive experience with the MSFD, and provided valuable insight into all aspects of the evaluation. As noted above, not all Member States reacted to the invitations. Of those that did, they were primarily national or federal-state level representatives, consisting of members from the respective ministries and/or environment agencies. Member States that responded to targeted consultations (**either via survey or in the focus group**) included:

- Belgium
- Bulgaria
- Croatia
- Cyprus
- Denmark
- Estonia
- Finland
- France
- Germany
- Ireland
- Italy
- Malta
- Netherlands
- Poland
- Portugal
- Slovenia
- Spain
- Sweden

The input gathered from Member State authorities proved very useful and has been used extensively throughout the evaluation and support study.

4. Analysis and evaluation of evidence

The evaluation framework formed the basis for the detailed review of evidence and analysis of each evaluation question. The evaluation matrix identifies the linkages between the evaluation questions, the information required, and the data collection tools used.

The analysis followed the basic rules of content analysis, i.e. it focused on the categorisation and

summary of the data from dispersed sources (documentary review, targeted consultation questionnaire, public consultation, interviews) and thus the identification of important issues and linkages between different aspects of a subject. The analysis had both quantitative and qualitative elements.

Both the targeted survey and the online public consultation were made available online, using EU Survey. Results from both questionnaires were downloaded in Excel format, which facilitated the statistical analysis. A small data analysis team was responsible for cleaning the data and preparing it for use by the wider team. General results of closed questions, as well as results by stakeholder group, were compiled and provided in a readable format to the contractor's team preparing the evaluation support study.

Responses to open questions and interviews were analysed separately by the evaluation team. Due to the relatively small number of responses to both the online public consultation and targeted survey, there was no need to develop any pre-screening processes or use machine learning.

The data were also scanned for evidence of campaigns, in particular, in the responses to the two surveys (public and targeted). A total of 26 respondents to the public consultation appeared to have coordinated their responses, based on similar responses to open questions. Similar responses were also submitted by respondents from the same organisation, especially in the responses to the targeted survey. However, in both the public and targeted consultations, the responses were not identical across the entire survey, and these submissions made up only a small share of the total. The decision was made to analyse these responses together with other responses.

5. Use of gathered input

The results of the consultation activities set out above were used extensively in the preparation of the 2022 evaluation support study and the subsequent drafting of the evaluation SWD. It is noted that the consultation activities were not limited to this evaluation, and the roadmap and online public consultation both included aspects relevant to an impact assessment. The results concerning these aspects (i.e. 'forward-looking' questions) are only peripherally reflected in the evaluation and the support study. They will, however, be considered in during any further review of the MSFD. All other relevant information has been considered.

Each survey question was allocated to the relevant evaluation criterion(a) so as to ensure that responses to all questions were considered. The evaluation support study authors then selected the relevant data to present in the report in graphical form (generally or by stakeholder group) as part of the response to each evaluation question.

Triangulation (looking at ideally three or more sources of evidence from different perspectives) was the basis for the content analysis and the distillation of judgements and conclusions. This was a complex undertaking, which relied to a certain extent on professional judgement, supported in each case by clear presentation of the available evidence.

Consultation evidence was particularly useful for the assessment of direct and indirect compliance costs. The targeted survey asked stakeholders to estimate study to estimate the annual time spent to carry out the administrative activities required by the MSFD. These figures were then used as a basis for estimating the administrative costs of the MSFD, as presented in the Efficiency chapter of the SWD and Annex IV. The focus group with industry representatives was used to get a qualitative understanding of the extent to which the implementation of the MSFD to date had major impacts on economic activities, and the extent of those impacts.

6. Challenges regarding the representativity of consultation activities

The consultation relied heavily on the existence of the CIS process for the MSFD, which gathers together a wide range of MSFD stakeholders and greatly facilitated contacting this broad group. The

CIS can be assumed to cover all stakeholders active in MSFD implementation, however, the selection of the focus group participants, with the exception of the three Member State focus groups, was not based on CIS participation alone, and thus ensured no relevant stakeholders had been overlooked.

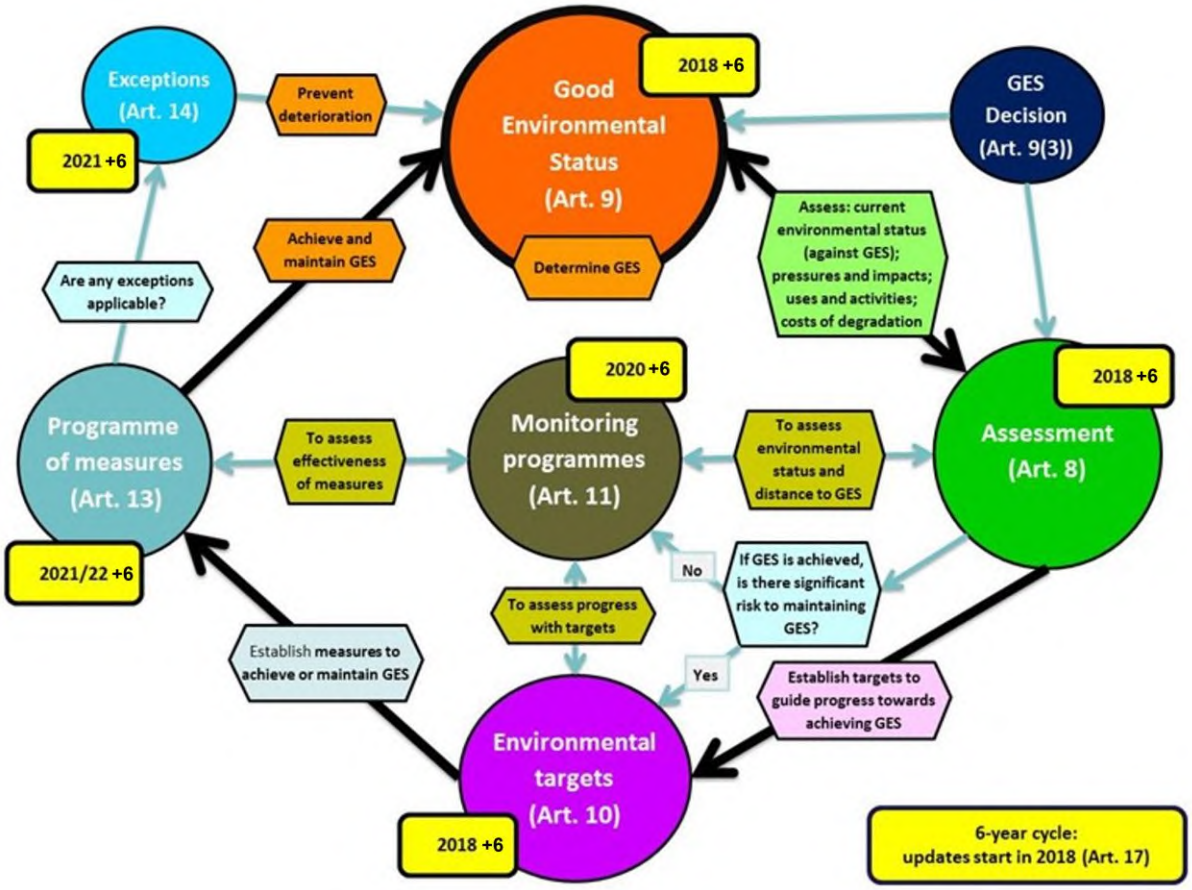
The consultation process was also limited by the self-selecting nature of the surveys and focus groups. The online public consultation survey, for example, cannot be considered an accurate representation of the general public, as it is assumed that only those with an interest in the MSFD/marine issues took the time to complete it. Furthermore, as mentioned, a large number of respondents were invited to complete the targeted survey, with around 10% of invitees responding. Similarly, a high number of focus group invitees either did not reply to invitations (despite reminders) or were unable to attend the dates set and failed to provide written responses. Those that did participate can therefore be assumed to be motivated to participate in the MSFD review. This means that the views of the motivated are reflected, while those of the less motivated are not, which may have created a bias in the information.

In addition to sampling issues, the nature of the closed questions – which were sometimes very high level and too complex to answer by ticking a box - proved difficult for some respondents and led, in certain cases, to many respondents choosing middle responses (e.g. 'to a moderate extent') or no response at all. This was partly overcome by the explanations that respondents provided in open-ended questions and did not hinder a good overview of stakeholders' opinions on key aspects of the Directive.

ANNEX VI. MSFD IMPLEMENTATION PROCESS AND GOVERNANCE

1. MSFD Implementation process

Figure 15. MSFD implementation process



2. The MSFD Reporting and review mechanism

Articles 12 and 16 of the MSFD require the Commission to **assess** whether the notified information constitutes an appropriate framework to meet the requirements of the Directive (including the consistency of marine strategies within marine regions). These reports, which are prepared every 6 years, have taken the form of Commission Communications, accompanied by staff working documents (SWDs) containing more detailed assessment and/or guidance[21].

Article 17 of the MSFD requires Member States to review the elements of their marine strategies in a coordinated manner every 6 years after their initial establishment. Updates must be sent to the Commission, the regional sea conventions (RSCs) and any other Member State concerned, within 3 months of being made publicly available (in accordance with Article 17(3)).

Member States are also required to prepare and submit interim reports describing their progress in implementing the PoMs. To facilitate the systematic and comparable analysis of Member States' reports, the Commission developed and informally agreed a 'reporting package' with

[21] For the overall approach and purpose of Member State reporting under the MSFD, see European Commission, *Approach to reporting for the Marine Strategy Framework Directive*, https://circabc.europa.eu/rest/download/d13fa277-5147-4c02-aea0-3be8f9344807

Member States. In June 2012, the high-level political group of Marine Directors (see Section 3.3.1) endorsed this package[22].

Reporting guidance documents and reporting sheets were developed for all subsequent reporting exercises[23]. Member States were asked to submit their reporting sheets, together with their national reports and any other supporting documentation, to the EEA **ReportNet** system[24] by 15 October 2012.

All information reported by Member States is publicly available through the Water Information System for Europe (WISE Marine)[25], a website managed by the European Environment Agency and providing information and data on the state of Europe's seas, and action to protect and improve it.

In addition to these cyclical reports, Article 21 requires the Commission to prepare a progress report on the establishment of marine protected areas (MPAs), based on information submitted by Member States[26].

Article 23 requires the Commission to review the Directive by July 2023 and propose any necessary amendments.

As a result of the cyclical reporting and assessment, information on the implementation of the different aspects of the marine strategies becomes available at different points in time, including the various assessment reports from the Commission on each of these aspects.

3. COM (2017) Decision on good environmental status

Achieving or maintaining good environmental status (GES) is the overarching objective of the Directive. GES represents a desirable state of the marine environment based on science and a number of additional principles, including the precautionary principle. It sets the boundaries within which the sustainable use of marine ecosystems can take place through the adoption of quantitative 'threshold values'. In this, it represents the foundation of the ecosystem-based approach (EBA) for the management of human activities at sea. Clear, quantitative, consistent and coherent determinations of GES are therefore a critical step in the effective implementation of the Directive.

Article 9(1) requires Member States to determine for each marine region or subregion 'a set of characteristics for good environmental status' using the qualitative descriptors listed in Annex I of the Directive, taking into account the indicative lists of elements set out in Tables 1 and 2 of Annex III. These include physical and chemical features, habitat types, biological features and hydro-morphology (Table 1) and the pressures or impacts of human activities in each marine region or subregion.

Article 9(3) gives the Commission delegated powers to lay down criteria and methodological standards to ensure consistency in Member States' determinations of GES. In 2010, the

[22] Marine Directors, 2012, Informal meeting of Water and Marine Directors of the European Union, Candidate and EFTA Countries, Warsaw, 8-9 December 2011, Final Synthesis: https://circabc.europa.eu/ui/group/326ae5ac-0419-4167-83ca-e3c210534a69/library/4f87f0d0-0033-40e8-8513-d6e5fa9213b3/details

[23] MSFD reporting processes to date are available here: https://cdr.eionet.europa.eu/help/msfd

[24] https://cdr.eionet.europa.eu/help/msfd

[25] Wise Marine, homepage: https://water.europa.eu/marine

[26] Latest report from the Commission on the progress in establishing marine protected areas (as required by Article 21 of the Marine Strategy Framework Directive 2008/56/EC), COM/2015/0481 final. Available at: https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52015DC0481

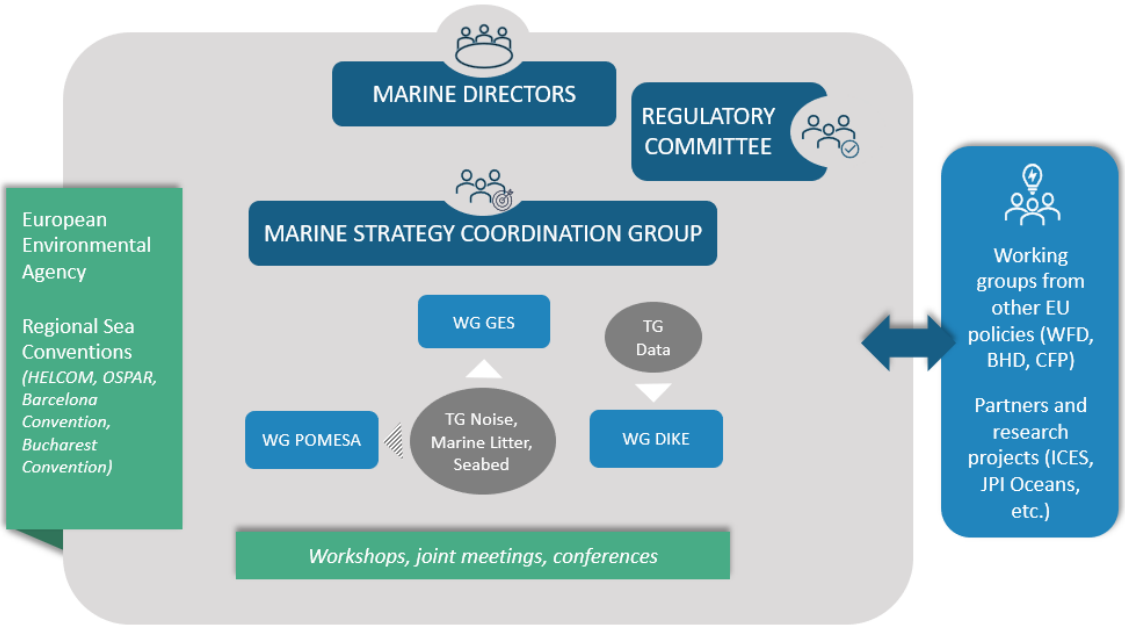
Commission adopted Decision 2010/477/EU, as the key reference framework for Member States' first determination and subsequent reporting of GES in 2012, as well as the 2014 monitoring programmes. It established criteria to be used by the Member States to determine the GES of their marine waters and to guide their assessments of that status in the first instance.

The Decision was revised in 2017, in time to support a successful update of marine strategies that were due by 201827. The 2017 GES Decision 'aimed at a clearer, simpler, more concise, more coherent and comparable set of good environmental status criteria and methodological standards'28. The 2017 GES Decision also introduced a distinction between primary and secondary criteria, with the latter only to be considered if/when they were assessed as 'posing a risk to the marine environment and the achievement of GES'. Translating GES into measurable elements, identifying parameters and defining objective values is essential, not only for measuring progress but to improve the coordination of marine strategies within a region.

4. Common Implementation Structure for the implementation of the MSFD

To facilitate the implementation of the MSFD, the European Commission established the **common implementation strategy ('CIS'),** which aims to develop common approaches, pool resources through experience-sharing, and bring together the best technical expertise to answer practical challenges.

Figure 16. Structure of the common implementation strategy



Source: Authors' development.

The CIS is composed of several working groups, each tackling an aspect of the Directive that needs coordination.

- **The meeting of Marine Directors** constitutes the highest-level group of the CIS,

[27] European Commission, Commission Decision (EU) 2017/848 of 17 May 2017 laying down criteria and methodological standards on good environmental status of marine waters and specifications and standardised methods for monitoring and assessment
[28] European Commission, Commission Decision (EU) 2017/848, Preamble (4).

overseeing the overall implementation of the Directive.

- **MSFD Regulatory Committee** was established under Article 25 of the Directive. Chaired by the Commission, it is composed of representatives of all Member States. It should assist the implementation of the Directive by steering strategic decisions.
- **Marine Strategy Coordination Group (MSCG)** is an informal expert group. Pursuant to Article 1 of the Rules of Procedure[29], it 'coordinates the joint activities between the European Commission and the EU Member States to support the implementation of Directive 2008/56/EC'.

According to its Rules of Procedure, the tasks of the CIS are further divided into **three working groups (WG)** to provide technical, scientific and socio-economic input, delivered in technical documents advising the MSCG. In parallel, **four technical groups (TG)** are also established under the current CIS work programme to provide the working groups with technical expertise on specific emerging obstacles. Overall, the activities of the TGs feed the work undertaken by the WGs as appropriate, with the MSCG monitoring, coordinating and overseeing their work.

- **Working Group GES** helps Member States to develop common approaches to undertake initial assessments of marine waters, determine GES, set environmental targets and monitor the state of the marine environment (Articles 8, 9, 10, 11 MSFD).
- **Working Group DIKE** was created to support Member States with their data reporting obligations and led the development of the reporting sheets for monitoring programmes and PoMs. It seeks to develop a common understanding of the Directive's reporting requirements (including reporting guidance, as discussed in Section 3.1.2), as well as streamlining data flows.
- **Working Group POMESA** (Programme of Measures and Socio-economic Analysis) aims to develop common methodologies and approaches among Member States to carry out a socio-economic analysis of the use of their marine waters and to assess the cost-effectiveness of measures taken to achieve GES (Article 8(1)(c)).
- **TG on Marine Litter** and **TG on Underwater Noise** provide valuable technical advice on the harmonisation of monitoring methods for D10 and D11. They prioritise research and constitute a forum to exchange principles and best practices on target setting and assessment methodologies.
- **TG Seabed** was later established to work on seabed habitats and seafloor integrity (D1 and D6).
- **TG on Marine Data** focuses on IT-related discussions and the technical challenges that may arise from data management and reporting[30]. It seeks to support and facilitate the work of WG DIKE.

MSFD Expert Networks established by the JRC on Descriptors D1 (Biodiversity), D2 (non-indigenous species), D5 (Eutrophication) and D8/D9 (Contaminants) facilitate discussions on technical aspects of the MSFD implementation by providing a forum to harmonise methodologies and agree on ways forward with Member States, RSCs and scientific communities.

The Regional Seas Conventions, as well as external stakeholders (NGOs or industry) are also

[29] Marine Strategy Coordination Group, 2013, Rules of Procedure of the informal Commission group of experts on the implementation of the Marine Strategy Framework Directive 2008/56/EC, adopted on 4 February 2013, https://circabc.europa.eu/ui/group/326ae5ac-0419-4167-83ca-e3c210534a69/library/a4e878a5-2217-41b3-ab5a-68caa4cf38b3/details

[30] European Commission, *Our Oceans, Seas and Coasts*, https://ec.europa.eu/environment/marine/eu-coast-and-marine-policy/implementation/reports_en.htm

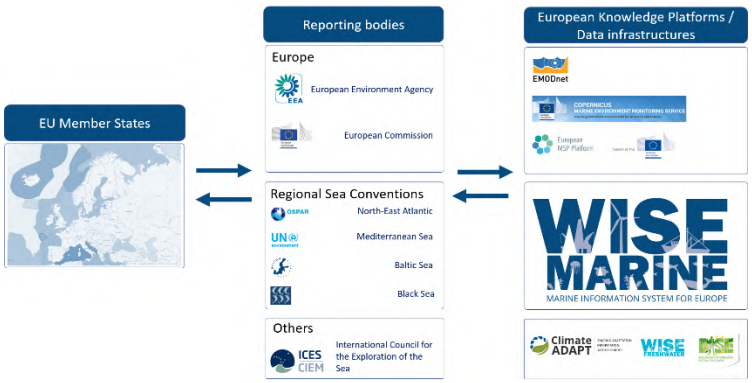
invited to attend MSCG meetings as **observers**.

4. **Databases and programmes relevant to MSFD:**

ReportNet: **data repository**, is the e-Reporting platform for reporting environmental and climate data to the European Environment Agency (EEA). The MSFD assessments and underlying data are submitted using this system.

WISE Marine[31] **data management platform/system** that provides access to information and data on the state of Europe's seas, on the pressures affecting them, and on the actions being taken to protect and conserve the marine environment. This information is collected at the European level through implementation and reporting for the EU Marine Strategy Framework Directive (MSFD, Directive 2008/56/EC), as well as from other European legislation and initiatives that are relevant for the marine environment. The WISE Marine platform is a partnership between the European Commission and the European Environment Agency (EEA).

The platform relies on EU Member States' reported information and provides a window to display their reports at national, regional and European levels. WISE Marine has also contributions from other stakeholders involved in the MSFD common implementation strategy, and counts on collaboration with regional sea conventions, as well as other partners and platforms/infrastructures that are involved in marine data collection and sharing in Europe.



EMODnet (the European Marine Observation and Data Network) is a network of organisations supported by the EU's integrated maritime policy. These organisations work together to aggregate data coming from different observing activities,, process the data according to international standards and make that information freely available as interoperable data layers and data products. This 'collect once and use many times' approach benefits all marine data users, including policy makers, scientists, private industry and the public. Available data are used to create and make available multi-resolution maps of all Europe's seas and oceans, spanning all seven disciplinary themes. More than 120 partner organisations are currently involved in the EMODnet service. To further increase the quantity and quality of available European marine data, the ***EMODnet Data Ingestion Portal*** was launched in 2017. It takes a pro-active and strategic approach, to target datasets that can fill key gaps by reaching out to other initiatives or specific communities that are collecting data but who do not traditionally share their data, such as the private sector.

[31] https://water.europa.eu/marine

COPERNICUS is the **European Union's Earth Observation Programme**, looking at our planet and its environment for the benefit of all European and global citizens. The ***Copernicus Marine Service (CMEMS)*** transforms satellite and in situ data into systematic reference information on the physical and biogeochemical state, variability and dynamics of the ocean and marine ecosystems for the global ocean and the European regional seas. CMEMS supports the implementation of EU policies and the MSFD, especially through its Ocean Monitoring Indicators, a portfolio of essential ocean variables used to evaluate ocean health, and the Ocean State Report, an annual assessment of the state of the ocean. The expertise and products of the Copernicus Marine Service support national services and bodies implementing public policies by supplying scientifically assessed, relevant, and free ocean information.

ANNEX VII. STATE OF PLAY FOR THE MARINE ENVIRONMENT AND MARINE STRATEGIES

1. Summary of the state of environment (by descriptor)[32]

Table 7. State of the marine environment by descriptor, comparison 2012-2018

<table>
<tr><th>Descriptor</th><th>State in 2018</th><th>2012 Baseline[33]</th></tr>
<tr><td>D1: Biodiversity</td><td>In 2018, Member States reported the following conclusions on the assessment of status of species and water column habitats in their marine waters[34]:
<table>
<tr><th>Ecosystem component</th><th>Species group</th><th>In GES</th><th>Not in GES</th><th>Not assessed</th></tr>
<tr><td rowspan="4">Marine mammals</td><td>Small-toothed cetaceans</td><td>3%</td><td>53%</td><td>44%</td></tr>
<tr><td>Deep-diving toothed cetaceans</td><td>8%</td><td>25%</td><td>67%</td></tr>
<tr><td>Baleen whales</td><td>15%</td><td>31%</td><td>54%</td></tr>
<tr><td>Seals</td><td>18%</td><td>47%</td><td>34%</td></tr>
<tr><td rowspan="3">Seabirds</td><td>Grazing birds</td><td>43%</td><td>22%</td><td>35%</td></tr>
<tr><td>Wading birds</td><td>8%</td><td>50%</td><td>42%</td></tr>
<tr><td>Surface-feeding birds</td><td>18%</td><td>37%</td><td>45%</td></tr>
</table></td><td>In 2012, Member States reported the following information on the assessment of status of species and water column habitats in their marine waters[41]:
<table>
<tr><th>Ecosystem component</th><th>Conclusions on GES assessments</th></tr>
<tr><td rowspan="3">Marine mammals</td><td>Over 54% of the ‘GES’ assessments for marine mammals are ‘unknown’ for all criteria.</td></tr>
<tr><td>For marine mammals distribution is the criterion with more assessments of ‘not good’ reported</td></tr>
<tr><td>Most assessments of ‘good’ environmental status for marine mammals have a ‘stable’ trend</td></tr>
<tr><td rowspan="3">Seabirds</td><td>Over 40% of the ‘GES’ assessments for seabirds are ‘unknown’ for all criteria.</td></tr>
<tr><td>For seabirds’ population condition is the criterion with more assessments of ‘not good’ reported.</td></tr>
<tr><td>Most assessments of ‘good’ environmental status for seabirds have an ‘improving’ or ‘stable’ trend, whilst most</td></tr>
</table></td></tr>
</table>

[32] Adapted from the key messages set out in EEA’s ‘Marine Messages II’ and SWD(2020) 61 final, parts I-III, unless otherwise specified. Information related to achievement of GES in 2018 comes from WISE-Marine and is based on 2018 Member States’ reports of Article 8 MSFD.
[33] Adapted from SWD(2014) 49 Final, EEA’s Marine Messages I and ETC/ICM, 2015.
[34] WISE Marine: Good Environmental Status (GES) assessments of EU marine waters by integration level (europa.eu)
[41] ETC/ICM, 2015. Initial Assessment of European Seas based on Marine Strategy Framework Directive Article 8 reporting – Summary report, ETC/ICM Technical Report 1/2015, Magdeburg: European Topic Centre on inland, coastal and marine waters, 80 pp.

Descriptor	State in 2018					2012 Baseline[33]	
		Pelagic-feeding birds	29%	27%	44%		assessments of 'not good' have a declining trend associated with them.
		Benthic-feeding birds	7%	59%	34%		
	Reptiles	Turtles	12%	19%	69%	Reptiles	Over 56% of the 'GES' assessments for marine reptiles are 'unknown' for all criteria.
	Fish & cephalopods	Coastal fish	6%	30%	64%		For marine reptiles population size (4%) is the only criterion with a 'not good' assessment.
		Pelagic shelf fish	4%	54%	42%		All marine reptile assessments of 'good' environmental status have an 'improving' or 'stable' trend, whilst the only marine turtle assessment of 'not good' has a 'declining' trend associated with it.
		Demersal shelf fish	3%	57%	69%	Fish & cephalopods	Over 40% of the 'GES' assessments for marine fish are 'unknown' for all criteria
		Deep-sea fish	8%	23%	69%		For marine fish population size is the criterion with more assessments of 'not good' reported.
	Pelagic habitats		7%	47%	46%		Most marine fish assessments of 'good' environmental status have an 'improving' or 'stable' trend, whilst for the marine fish assessments of 'not good' there isn't a clear pattern.
						Pelagic habitats	Over 46% of the 'GES' assessments for water column habitats are 'unknown' for all criteria.

Many marine species are still at risk: few species groups in the Baltic Sea are in good status, and little progress has been seen[35]. In the north-east Atlantic Ocean, many marine mammals and fish populations remain at risk, even while some species are recovering. Marine birds remain at risk in these regions[36]. In the Mediterranean and Black Seas, overfishing affects more than 87% of key species[37], and the negative effects of pollution on the marine environment are of particular concern[38]. Significant data gaps are observed in all marine regions, with species poorly monitored and information incomplete[3940].

[35] HELCOM. (2023). State of the Baltic Sea. Third HELCOM holistic assessment 2016-2021. Baltic Sea Environment, Proceedings n°194.
[36] OSPAR, Key findings from OSPAR's Quality Status Report 2023, https://www.ospar.org/work-areas/cross-cutting-issues/qsr2023
[37] SWD(2020) 61 final, part II
[38] European Commission, The common fisheries policy today and tomorrow: a Fisheries and Oceans Pact towards sustainable, science-based, innovative and inclusive fisheries management, COM/2023/103 final
[39] SWD(2020) 61 final, part I
[40] See for example the data limitations set out in UNEP/MED, Decision IG.26/3, The 2023 Mediterranean Quality Status Report and a Renewed Ecosystem Approach Policy in the Mediterranean

Descriptor	State in 2018	2012 Baseline[33]
		For water column habitats condition is the only criterion with assessments of 'not good' reported.
		All water column habitat assessments of 'good' have a 'stable' or 'unknown' trend, whilst all assessments of 'not good' have an 'unknown' trend.
		Decrease of population size, loss of distributional range and loss of habitat due to exploitation or invasive species were being observed for many European marine species such as the Blue Fin tuna, the Angel shark, and the European eel. The eel population was approximately 1 % of its size 20 years before. Only 10% of the assessment of marine habitats and 3% of the assessments of marine species protected under Natura 2000 were considered to be in favourable conservation status. Main pressures were identified as fisheries, pollution (eutrophication; hazardous substances) and non-indigenous species, with the effects of climate change threatening to further exacerbate existing impacts. Larger-bodied animals and top predators were particularly impacted by these pressures, and disappearing throughout Europe's marine regions, leading to disturbances in the food web and affecting ecological processes such as disease control, spread of invasive species and biogeochemical exchanges. Despite these trends, only a few marine species had so far become extinct in European seas. Among them are the Baltic Sturgeon and the Great Auk.
D2: Non-indigenous species	The cumulative number of non-indigenous species continues to increase, in particular in the Mediterranean[42] and the Baltic[43]. There are over 800 marine non-indigenous species in Europe's seas, mostly occurring in the Mediterranean Sea[44]. Roughly 7% of the marine non-	In Europe, more than 1, 350 marine species have been introduced in European Seas since the 1950's, with almost 300 new species reported since 2000. Most introductions have occurred in the Aegean-Levantine subregion-region in the

[42] UNEP/MED, The 2023 Mediterranean Quality Status Report, as above.
[43] HELCOM, State of the Baltic Sea, 2023, as above.
[44] Tsiamis, K., et al., Marine Strategy Framework Directive, Descriptor 2, Non-Indigenous Species, EUR 30640 EN, Publications Office of the European Union, Luxembourg, 2021.

Descriptor	State in 2018	2012 Baseline[33]
	indigenous species are potentially invasive[45]. However, NIS introductions may be decreasing in the north-east Atlantic (data is inconsistent)[46] and the rate of new introductions seems to be decelerating.These findings need to be considered with care as data is biased due to the increase in monitoring efforts in the last years[47]. Overall, only 27% of marine waters were reported in 2018 to be in GES for newly-introduced NIS, and only 12% for established NIS.	Mediterranean Sea, since the opening of the Suez Canal in 1949, however all marine regions are affected. Pressures identified included the handling of ballast water, and through aquaculture and the aquarium trade. Based on the 2012 MSFD reporting, the assessment of the descriptor Non-indigenous species was mostly unknown due to the lack of qualitative data in the vast majority of Member States.
D3: Commercial fish stocks	In recent years, more and more stocks have reached sustainable levels. However, additional efforts are needed, and CFP objectives are not yet met[48].Good progress has been seen in particular in the Iberian Sea and Atlantic. In the Mediterranean and Black Seas, some improvements have been seen, however progress is slow and the situation is still concerning. In the Baltic, many commercial fish stocks are in an especially poor state because of overfishing as well as other pressures on the environment and marine ecosystems[49]. In 2018, only 7% of commercial fish and shellfish populations across European waters were reported to be in GES, while 52% were not in GES and 41% were not assessed.	Cumulative fishing levels meant 39% of fish stocks in the north-east Atlantic Ocean and 88% in the Mediterranean and Black Seas were overfished. The continuous use of bottom trawling and other high-impact fishing gear has destroyed seafloor habitats and compromised its biodiversity. By-catch by the EU fishing fleet was estimated at around 200 000 seabirds annually. Based on the 2012 MSFD reporting: • 16 Member States reported on occurrence of the pressure, only 8 provided (partial) semi-quantitative information on fishing pressure. • Proportion of area affected by the pressure differs immensely between Member States, even within regions. • Overall in the EU, occurrence of the pressure on fish was reported for approximately 60% of the area of which about half indicted the pressure occurred in 5–25% of the area, and one-third 75–100% of the area. • For shellfish this was mostly unknown or not reported.

[45] Report from the Commission to the European Parliament and the Council on the implementation of the Marine Strategy Framework Directive (Directive 2008/56/EC), COM(2020) 259.
[46] OSPAR, OSPAR's Quality Status Report 2023, as above.
[47] https://circabc.europa.eu/ui/group/326ae5ac-0419-4167-83ca-e3c210534a69/library/c4dad33b-376c-437d-a789-1cae7e5dcccf/details
[48] European Commission, The common fisheries policy today and tomorrow, COM/2023/103 final
[49] HELCOM, State of the Baltic Sea, 2023, as above

Descriptor	State in 2018	2012 Baseline[33]
D4: Food webs	The overall state of marine food webs cannot be fully assessed, however many trophic guilds showing deteriorating trends due to anthropogenic pressures. This especially concerns the declining numbers of several top predators. There are, however, some examples of recovery for key species/groups of species[50]. In 2018, 10% of coastal ecosystems were reported to be in GES, 25% not in GES and 65% were not assessed. For shelf ecosystems, the share in GES was slightly better, at 22%, 13% were not in GES and still 65% not assessed, highlighting knowledge and methodological gaps for this descriptor.	The food web was being affected by pressures such as climate change and other human activities. Such impacts are of the most insidious kind as they slowly but pervasively break ecological interactions. These impacts act first locally and then at a larger scale, potentially leading to ecological tipping points from which there are little or no return. Ultimately, this can lead to the extinction of species and the loss of ecosystem resilience.
D5: Eutrophication	Eutrophication remains an issue in EU coastal waters[51]. The Baltic Sea is particularly affected, with 97 % of the region eutrophic[52]and no clear signs of recovery in recent years[53]. In 2018, only 12.5% of EU waters were assessed as being in GES for eutrophication while 67% were not in GES (18.5% were not assessed). Nutrient inputs from point sources have significantly decreased; although inputs from diffuse sources remain high. Measures to mitigate eutrophication are starting to have results, but full recovery will take decades[54].	Pollution from land-based activities, inland waterways (agricultural fertilisers including manure), poorly or untreated wastewater, and airborne pollution were widely recognised as contributing to eutrophication. It was acknowledged that eutrophication levels must be reduced, but that it would be difficult to implement. EEA indicators show that between 1985 and 2010, overall nutrient concentrations have been either unchanging (84% of reported stations) or decreasing, and that between 1985 and 2010 concentrations at 87% of stations remained unchanged. Based on the 2012 MSFD reporting: • In about 1/3 of the marine waters, the pressure (nutrient concentration) is reported to occur in >5% of the marine waters of Member States. A stable pressure or decreasing trend for nutrient concentrations and loads is observed in 50% of EU marine waters. • As for organic matter, most Member States reported that the level of pressure is unknown or not reported.

[50] SWD(2020) 61 final, part II
[51] SWD(2020) 61 final, part III
[52] EEA, The European Environment—State and Outlook 2020: Knowledge for Transition to a Sustainable Europe, 2019
[53] HELCOM, State of the Baltic Sea, 2023, as above.
[54] SWD(2020) 61 final, part III

Descriptor	State in 2018	2012 Baseline[33]
		• Strong impacts on water column and seabed habitats, extending to >25% of the surface area of an assessment area are reported for 5% of the total EU marine waters.
D6: Seabed integrity	Seabed habitats are under significant pressure across European seas from demersal fishing, coastal developments and other activities. About 79 % of Europe's coastal seabed and 43% of shelf/slope area is considered to be physically disturbed, with around one fifth of the European seabed habitats classified as threatened[55]. Only 15% of seabed habitats (benthic broad habitats) were assessed to be in GES in 2018 and 36% not in GES. Almost half were not assessed (49%).	Based on the 2012 MSFD reporting: • Over 76% of the 'GES' assessments for seabed habitats are 'unknown' for all criteria. • For seabed habitats condition is the criterion with more assessments of 'not good' reported. • Most assessments of 'good' environmental status for seabed habitats have a 'stable' trend, whilst the few assessments of 'not good' for seabed habitats normally have a 'declining' trend.
D7: Hydrographical conditions	The understanding of this descriptor still varies, leading to inconsistent data. However, around 30 % of EU's coastline appears affected by permanent hydrographical changes, and about 25 % of the coastal strip is subject to temporary or permanent seabed habitat loss due to energy infrastructure and ports, as well as natural resource exploitation[56]. In 2018, Member States reported that 39% of hydrographical changes in EU waters were in GES, meaning that they did not lead to adverse effects on species or habitats.	Based on the 2012 MSFD reporting: • 45% of EU waters were reported under low level of pressure from hydrological processes. • The level of pressure and impact was not reported for 30% of EU waters. High level of pressure due to hydrological processes alteration was reported for the Mediterranean, where 30% of the area is under a high level of pressure (75%–100% altered conditions). NE Atlantic (70% of area under pressure) and Baltic Sea (62% of the regional sea area) have a large proportion of area exposed to a low level of pressure (<1%). • Impacted features are mainly physical and chemical characteristics of the water column habitat, benthic habitat characteristics, physical and chemical characteristics of the water column habitat, and functional groups such as birds, fish, mammals and reptiles. • Only few Member States have reported on the status, most Member States have reported that status is unknown or have reported other statuses other than good/not good.

[55] EEA, Marine Messages II
[56] EEA, The European Environment—State and Outlook 2020, as above.

Descriptor	State in 2018	2012 Baseline[33]
D8: Contaminants	80 % of European seas assessed have been classified as being problem areas with respect to contamination[57]. Contaminant concentrations remain above agreed thresholds in large parts of the coastal, territorial and offshore waters across all the marine regions in Europe[58]. However, EU/global initiatives have reduced concentrations of some hazardous substances in the marine environment. Oil spills and discharges from offshore oil/gas installations and shipping have also decreased[59]. Only 17% of EU waters were assessed as being in GES for ubiquitous, persistent, bio-accumulative and/or toxic substances (UPBT) in 2018 and 30% for non-UPBT substances.	Mercury, lead, cadmium, lindane, HCB, PCB and DDT7 have been banned from use, but are still found in the environment. EEA indicators shows concentrations of HCB and lindane are generally low/moderate, concentrations of cadmium, mercury and lead moderate, and PCB and DDT moderate/ high. Between 1998-2010, lead, lindane, PCB and DDT generally declined in the Northeast Atlantic Ocean, however, in the Mediterranean Sea, more than a third of stations show of high concentrations of these contaminants. A general upward trend was found for mercury and lead. Based on the 2012 MSFD reporting: • Pressure related to synthetic hazardous substances was most frequently observed in shallow water substrates. Impacted elements reported in shallow waters were unspecified functional groups, fish and birds. Very few elements impacted are reported in deeper waters. • Activities that most affected the levels of these substances in decreasing order were: industry, urban development, shipping, agriculture/forestry and oil/gas. Tourism and solid waste disposal ranked lowest. However, it should be noted that the data does not distinguish which hazardous substance type these activities impact. • Only between 14 and 36% of the total area where an assessment was made, was actually given a status of 'Good', 'not good', or that the status was graded in some other fashion ('Other status'). • Overall the result at EU level indicates that 18% of waters were exposed to low or medium pressure (i.e. <5%) related to non-synthetic hazardous substances and 4.3% of waters were exposed to low or medium pressure (i.e. <5%) related to synthetic hazardous substances.

[57] EEA, Marine Messages II
[58] See for example HELCOM, State of the Baltic Sea, 2023, as above.
[59] SWD(2020) 61 final, part III

Descriptor	State in 2018	2012 Baseline[33]
D9: Contaminants in seafood	Overall, contaminants regulated by Regulation 1881/2006 are below the maximum concentration levels. Concentration trends are either stable or decreasing, with the exception of cadmium in the Black Sea[60]. In 2018, 43% of EU marine waters were assessed as being in GES for contaminants in seafood, 32% not in GES and 25% unknown.	Based on the 2012 MSFD reporting: • Only 5 out of the 23 Member States reported information on non-synthetic and synthetic hazardous substances in seafood. • The results available indicated that about 6% of the marine area was exposed to low or medium pressure (i.e. <5%) for non-synthetic and synthetic hazardous substances in seafood. • Only 2 Member States reported information on non-synthetic hazardous substances in seafood, and only one reported on the level of pressure (their entire area as <1%).
D10: Marine litter	In 2018, only 10% of EU waters were assessed as being in GES for the abundance of litter in the environment, and 41% were assessed as not in GES. Knowledge and methodological gaps prevented meaningful assessments of micro-litter and litter in species. The latest trends related to coastline litter show a clear decrease of the presence of macro-litter on European beaches in the past years, with an estimated 39% EU-wide decrease between 2016 and 2021 (48% in the Mediterranean). Further improvements can be seen: 51% of North Sea fulmars have more than 0,1g of plastics in their stomachs, compared to 58% in the previous period[61]. Marine litter is still found along the shoreline, water column and seafloor, although concentrations vary greatly also within marine regions[62]. The Black Sea appears to be more affected by marine litter than other European seas[63].	Systematic monitoring had not yet taken place across Europe. Based on the 2012 MSFD reporting: • All Member States recognised the problem of marine litter, but assessment was generally not performed consistently over the EU marine areas. No Member State reported 'good' status and 18% of the Member States reported 'not good' status for shore litter. 6% of Member States reported good status and 14% 'not good' status on seabed litter. Many times the status was not assessed. • Main activities, causing the pressure at EU level are shipping, tourism recreation, fisheries, urban and industry. • Quantities of litter washed ashore and/or deposited on coastlines were reported as stable in 20% of EU waters. Similarly, quantities of litter deposited on the seafloor were reported as stable in 21% of EU waters.

[60] SWD(2020) 61 final, part III
[61] OSPAR 2023 QSR, Indicator assessment, Plastic Particles in Fulmar Stomachs in the North Sea
[62] See for example UNEP/MED, The 2023 Mediterranean Quality Status Report, as above; or the Summary of Key Issues from the Assessment of the marine environment in the Black Sea based on findings from the EMBLAS projects and JRC Marine Modelling Team
[63] Summary of Key Issues from the Assessment of the marine environment in the Black Sea, as above

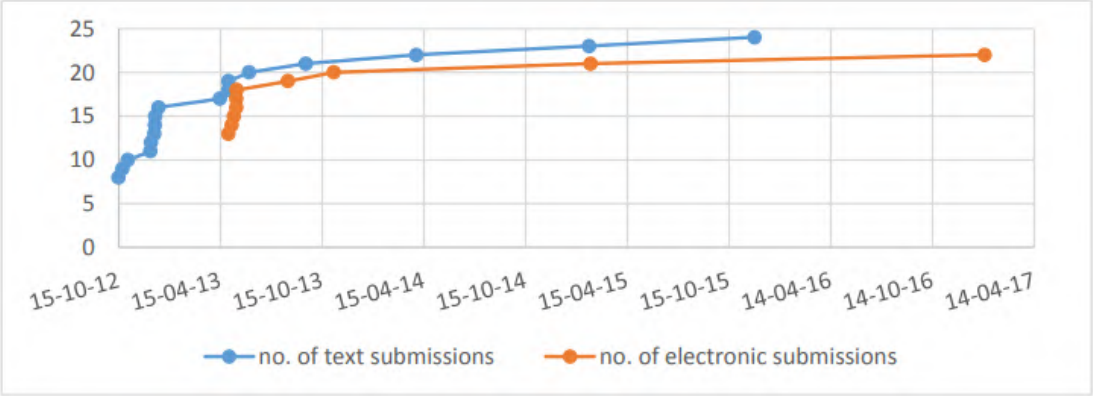
Descriptor	State in 2018	2012 Baseline[33]
	In 2020, single-use plastics represented 50 % of all European beach litter items and fishing gear containing plastics accounted for another 27 %[64].	• Features, impacted by marine litter are mainly predominant habitats, marine biota (turtles, cephalopods). At EU level impact from marine litter was most frequently observed in marine shelves.
D11: Underwater noise	91 % of Europe's seas are estimated to be exposed to continuous shipping noise[65], while impulsive underwater noise from offshore energy platforms, construction operations or marine research likely occurs in 8% of EU marine area[66]. The Mediterranean Sea has the largest area of intensive maritime traffic, the main source of continuous underwater noise[67]. A register of impulsive noise sources was established, but leaving large gaps in monitoring and knowledge[68]. In 2018, over 90% of EU waters were not assessed by Member States against GES. Most activities likely to cause underwater noise are expected to increase in the near future, thus it is highly probable that from underwater noise will also increase[69].	There had been little work on the exact distribution of sources of sound in EU waters and systematic monitoring had not been conducted to clarify the impact of sound on marine species. Based on the 2012 MSFD reporting: • Very little information had been provided on the status, status trend, and confidence of the noise pressure level for the various Member States. • Overall the impulsive noise pressure seemed to be increasing while the pressures from continuous sound seemed to be more stable. • Shipping was by far the most frequently ranked activity causing noise pressure in the assessment, followed by renewable energy, oil and gas activities as well as research surveys. • Only one Member State reported on status trend for both impulsive and continuous noise pressure (both reported to be 'not good')

[64] SWD(2020) 61 final, part III
[65] EEA, Marine Messages II
[66] SWD(2020) 61 final, part III
[67] UNEP/MED, The 2023 Mediterranean Quality Status Report, as above; or Summary of Key Issues from the Assessment of the marine environment in the Black Sea, as above.
[68] SWD(2020) 61 final, part III
[69] SWD(2020) 61 final, part III

2. Member States' marine strategies: state of play

Reporting response from the Member States for both e-reporting and text-based reports for the 1st cycle:

Figure 17. Member States that submitted reports under Articles 8, 9 and 10, 2012-2017



This Figure also captures Member States' updates of their GES determinations and/or their targets submitted after the completion of the 2012 reporting exercise. Some countries revised these elements through subsequent reporting (monitoring programmes in 2014; PoMs in 2016), while others submitted interim updates of Articles 9 and/or Article 10 prior to the required reporting in 2018.

Figure 18. Member States that submitted reports under Article 11 since 15 October 2014 deadline

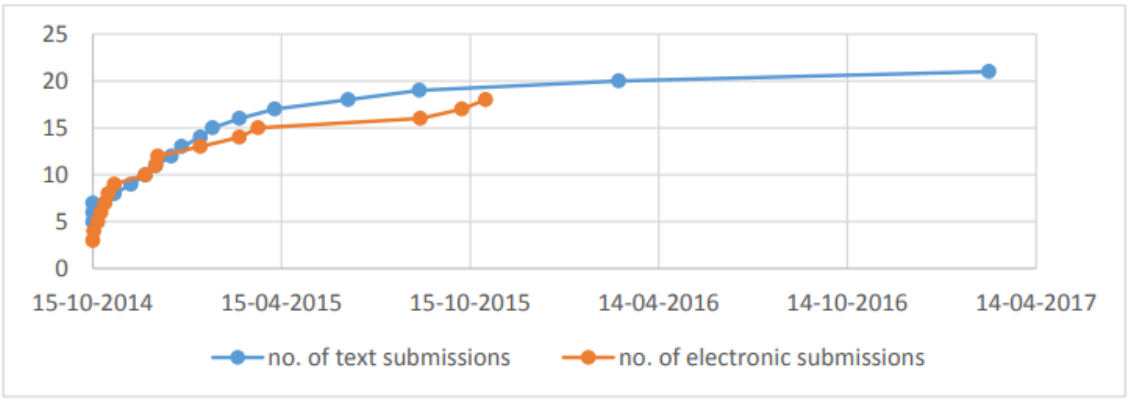
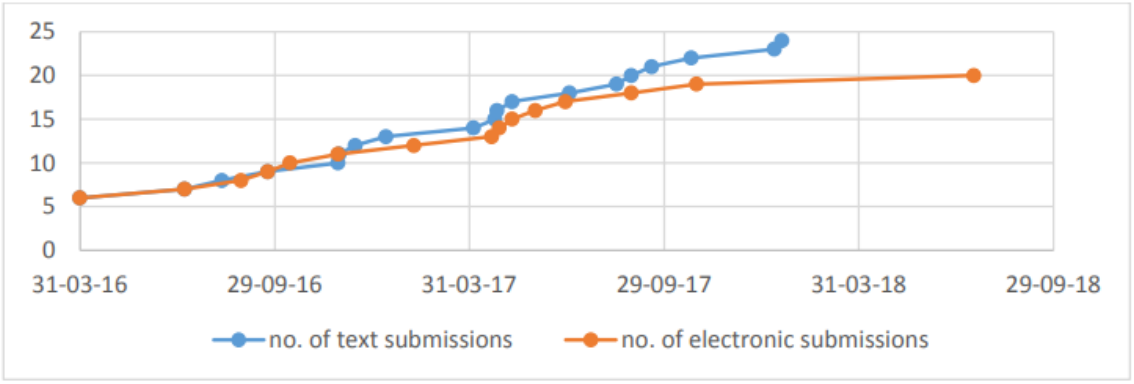


Figure 19. Member States that submitted reports under Article 13/14 since March 2016 deadline



Reporting response from the Member States for both e-reporting and text-based reports for the 2nd cycle:

Figure 20. Member States that submitted reports under Articles 8, 9 and 10, 2nd cycle.

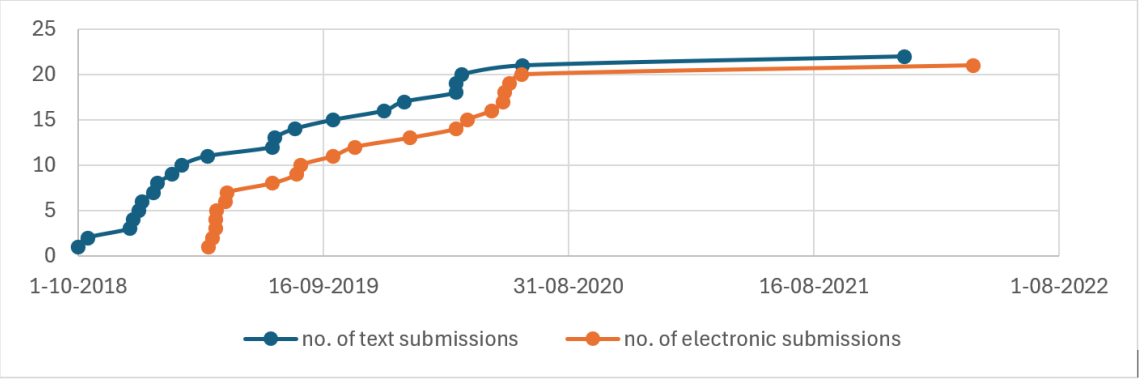


Figure 21. Member States that submitted reports under Article 11, 2nd cycle.

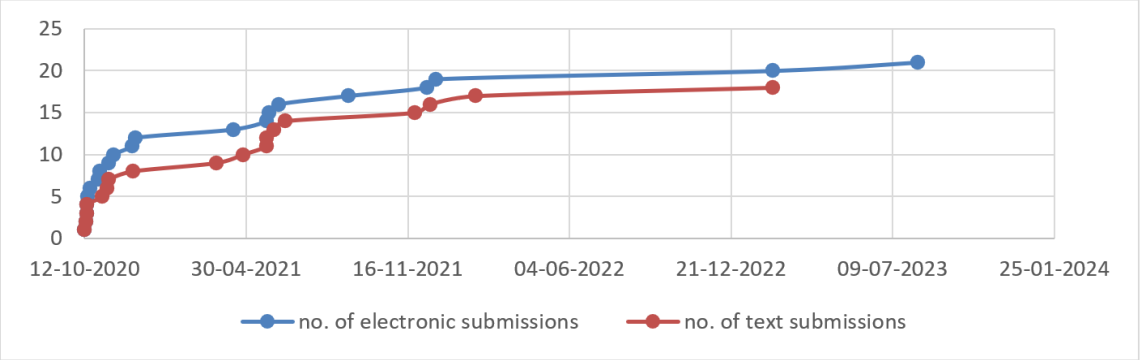
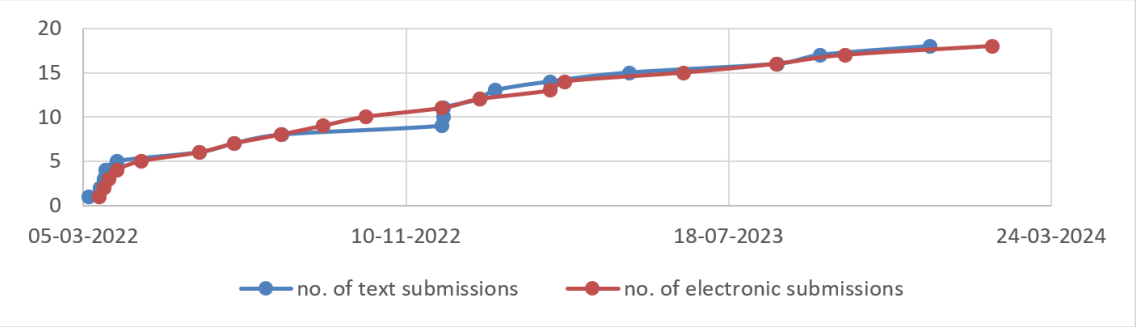


Figure 22. Member States that submitted reports under Article 13, 2nd cycle (by February 2024)



Development of marine strategies (state of play): graphs and figures

1. **Assessment of marine waters (Article 8)**

Table 8. Conclusions from the assessment of Article 9 (GES definitions) per descriptor, country and region.

		D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11
Baltic Sea	FI	NA	NA	A	PA	PA	PA	NA	NA	PA	PA	NA
	EE	PA	PA	NA	NA	PA	PA	NR	PA	PA	NR	NR

	LV	NA	PA	PA	NR	PA	NA	NR	NR	PA	NR	NR
	LT	NA	PA	NA	NA	NA	NA	NR	PA	PA	NR	NR
	PL	PA	PA	PA	PA	PA	NA	NA	PA	PA	PA	PA
	DE	NA	PA	A	NA	PA	NA	PA	PA	PA	NA	PA
	DK	PA	NA	NA	PA	NA	NA	NA	NA	NA	PA	NA
	SE	PA	PA	PA	A	PA	PA	NA	PA	PA	PA	PA
North-east Atlantic Ocean	**SE**	PA	PA	PA	A	PA	PA	NA	PA	PA	PA	PA
	DK	PA	NA	NA	PA	NA	NA	NA	NA	NA	PA	NA
	DE	NA	PA	A	NA	PA	NA	PA	PA	PA	NA	PA
	NL	NA	NA	NA	NA	NA	NA	NA	NA	PA	NA	NA
	BE	PA	PA	PA	PA	PA	PA	PA	PA	PA	NA	PA
	UK	PA	PA	PA	PA	PA	NA	PA	PA	PA	PA	A
	IE	NA	PA	PA	PA	PA	NA	PA	PA	NA	PA	PA
	FR	PA	NA	NA	A	PA	PA	A	A	A	A	A
	ES	A	PA	NA	NA	PA	PA	PA	PA	A	NA	NA
	PT	NA+	NA+	NA+	NA+	NA+	NA+	NA+	NA+	PA+	NA+	NA+
Mediterranean Sea	**UK**	PA	PA	NR	NA	NA	NA	NA	PA	NR	NA	A
	ES	A	PA	NA	NA	PA	PA	PA	PA	A	NA	NA
	FR	PA	NA	NA	A	PA	PA	A	A	A	A	A
	IT	PA	PA	PA	NA	PA+	PA	PA	PA+	PA+	NA+	NA+
	MT	PA	NA	NA	NR	NA	NA	NA	PA	PA	NA	NA
	HR	PA	NA	PA	PA	PA	NA	NA	NA	NA	NA	NA
	SI	PA	NA	PA	NA	PA	NA	NA	PA	PA	PA	PA
	EL	PA	NA	NA	PA	A	NA	NA	PA	PA	NA	PA
	CY	NA+	NA+	PA+	NR+	NA+	NA+	PA+	NA+	PA+	NA+	NA
Black Sea	**BG**	PA+	PA	PA	NR+	PA+	NA+	PA	NA+	NR+	NR+	NR
	RO	NA+	NA+	NA+	NR+	NA	NR+	NR+	NA+	NR+	NR+	NR+

Green (A) = adequate; orange (PA) = partially adequate; red (NA) = not adequate, grey (NR) = not reported. 8% of the assessments were considered adequate and 46% partially adequate. The sign '+' indicates that the Member State submitted an updated GES determination by 2017 which was taken into account in subsequent assessments. (COM SWD(2020)60 final)

2. GES determination: setting of Threshold Values (Article 9)

The following tables are indicative, they have been produced in the context of the work of the Working Group on Good Environmental Status by collecting the latest available information (as of April 2024) on the establishment of threshold values, criteria elements and integration rules at EU and regional levels. The official information will be reported by the Member States in October 2024 when they report to the Commission on their Article 9 updates.

Table 9. Progress with agreements on threshold values for primary criteria at EU and regional levels

Primary criteria	EU	Baltic Sea	NEA	Mediterannean	Black Sea
D2C1					
D5C1	Coastal				
D5C2	Coastal				
D5C5	Coastal				
D8C1	Coastal & territorial				
D8C3	No TV required				
D9C1					
D10C1					
D10C2					
D11C1		*	*	*	*
D11C2		*	*	*	*
D1C1 All					
D1C2 Birds					
D1C2 Mammals					
D1C4 Mammals					
D1C5 Mammals	No TV required				
D1C2 Reptiles					
D1C4 Reptiles					
D1C5 Reptiles	No TV required				
D1C2 Cephalopods					
D1C2 Fish					
D1C3 Fish					
D1C4 Fish					
D1C5 Fish	No TV required				
D1C6					
D3C1					
D3C2					
D3C3					
D6C3					
D6C4					
D6C5					
D4C1					
D4C2					

	not relevant
	not started
	started
	advanced
	completed
n.a.	Information not available, will be reported later
*	specifications following main TV setting at EU level

Table 10. Threshold values stemming from existing Union legislation.

Criterion	Threshold value(s)
D3C1 **Fishing mortality**	The Fishing mortality rate of populations of commercially exploited species is at or below levels which can produce the maximum sustainable yield (MSY).
D3C2 **Spawning stock biomass**	The Spawning Stock Biomass of populations of commercially exploited species are above biomass levels capable of producing maximum sustainable yield.
D5C1 **Nutrient concentrations**	The threshold values are as follows: (a) in coastal waters, the values set in accordance with Directive 2000/60/EC;
D5C2 **Chlorophylla concentrations**	The threshold values are as follows: (a) in coastal waters, the values set in accordance with Directive 2000/60/EC;
D5C5 **Dissolved oxygen**	The threshold values are as follows: (a) in coastal waters, the values set in accordance with Directive 2000/60/EC;
D8C1 **Concentrations of contaminants**	Within coastal and territorial waters, the concentrations of contaminants do not exceed the following threshold values: (a) for contaminants set out under point 1(a) of criteria elements, the values set in accordance with Directive 2000/60/EC; […] Beyond territorial waters, the concentrations of contaminants do not exceed the following threshold values: (a) for contaminants selected under point 2(a) of criteria elements, the values as applicable within coastal and territorial waters;
D9C1 **Contaminants in seafood**	The level of contaminants in edible tissues (muscle, liver, roe, flesh or other soft parts, as appropriate) of seafood (including fish, crustaceans, molluscs, echinoderms, seaweed and other marine plants) caught or harvested in the wild (excluding finfish from mariculture) does not exceed: (a) for contaminants listed in Regulation (EC) No 1881/2006, the maximum levels laid down in that Regulation, which are the threshold values for the purposes of this Decision;

Table 11. Threshold values that have been established through cooperation at Union level (in the framework of the common implementation strategy)

Criterion	Threshold value(s)
D6C4 **Habitat loss**	The maximum proportion of a benthic broad habitat type in an assessment area that can be lost is 2% of its natural extent (≤ 2%) (D6C4).
D6C5 **Adverse effects on habitats**	The maximum proportion of a benthic broad habitat type in an assessment area that can be adversely affected is 25% of its natural extent (≤ 25%). This includes the proportion of the benthic broad habitat type that has been lost (D6C5). A benthic broad habitat type is adversely affected in an assessment area if it shows an unacceptable deviation from the reference state in its biotic and abiotic structure and functions (e.g. typical species composition, relative abundance and size

	structure, sensitive species or species providing key functions, recoverability and functioning of habitats and ecosystem processes) (D6C5).
D10C1 **Litter on the coastline**	20 litter items/100 m of coastline
D11C1 **Impulsive noise**	For short-term exposure (1 day, i.e. daily exposure), the maximum proportion of an assessment/habitat area utilised by a species of interest that is accepted to be exposed to impulsive noise levels higher than the Level of Onset of Biologically adverse Effects (LOBE), over 1 day, is 20% or lower (≤ 20%). For long-term exposure (1 year), the average exposure is calculated. The maximum proportion of an assessment/habitat area utilised by a species of interest that is accepted to be exposed to impulsive noise levels higher than LOBE, over 1 year on average, is 10% or lower (≤ 10%).
D11C2 **Continuous noise**	20% of the target species habitat having noise levels above LOBE not to be exceeded in any month of the assessment year, in agreement with the conservation objective of the 80% of the carrying capacity/habitat size.

The threshold values still to be defined at Union level, in line with the 2017 GES Decision:

- marine litter in the surface layer of the water column and in the seabed (D10C1);
- micro-litter on the coastline, in the surface layer of the water column, and in seabed sediment (D10C2);
- level of adverse effects on seabed habitats (D6C5-quality).

Table 12. Progress with EU-level agreements on use of criteria (for primary criteria only)

Use of criteria (to be agreed at EU level)	
D1 Birds	
D1 Mammals	
D1 Reptiles	
D1 Cephalopods	
D1 Fish	
D6	
D3	
D5	*
D10	
D11	

	not started					
	started					
	advanced					
	completed					
*	to be agreed where possible at Union level but at least at (sub)regional level					

Table 13. Progress with agreements on criteria elements

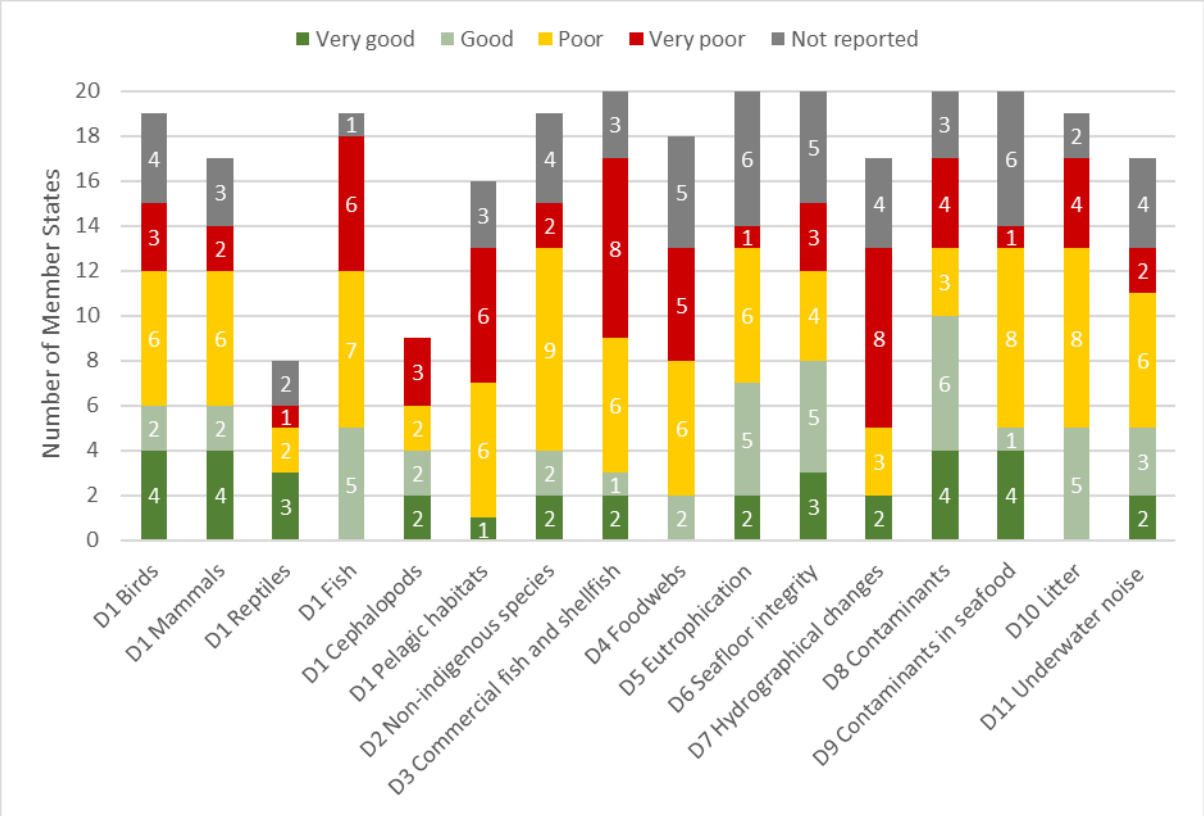
Primary criteria	EU	Baltic Sea	NEA	Mediterannean	Black Sea
D2C1					
D5C1	Coastal				
D5C2					
D5C5					
D8C1 - uPBT	Coastal & territorial				
D8C1 - non-uPBT	Coastal & territorial				
D8C3					
D9C1					
D10C1					
D10C2					
D11C1					
D11C2					
D1 Birds					
D1 Mammals	HD				
D1 Reptiles	HD				
D1 Cephalopods					
D1 Fish	HD				
D1 Pelagic					
D3C1					
D3C2					
D3C3					
D6C3					
D6C4					n.a.
D6C5					n.a.
D4C1					n.a.
D4C2					n.a.

	not relevant
	not started
	started
	advanced
	completed
n.a.	Information not available, will be reported later

3. The setting of environmental targets (Article 10)

The Figure below shows the **extent to which Member States defined targets that aim to reduce relevant pressures and impacts (**based on Member States' reported information under Article 8, second implementation cycle).

Figure 23. Adequacy of Member States' environmental targets by descriptor (2nd implementation cycle)



Note: Not all Member States reported operational targets for each descriptor. Non-operational targets are not shown. Greece and Bulgaria are not included due to late reporting
Source: Adapted from information in Milieu Consulting & ACTeon, Support to the evaluation of the Marine Strategy Framework Directive, EU Overview of the Commission assessments of the Member States' reported information for Articles 8, 9 and 10 (2nd cycle).

The table below presents the conclusions from the **Commission assessment of Article 10 (environmental targets) per descriptor, country and region.**

Table 14. Commission assessment of Member States' environmental targets by descriptor and by region (2nd implementation cycle)

		D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11
Baltic Sea	FI	PA	PA	PA	A	A	PA	NA	PA	PA	NA	PA
	EE	NA	NA	NA	NA	PA	NA	NA	NA	NA	NA	NA
	LV	NA	NA	PA	NA	PA	NA	NR	NR	PA	NR	NR
	LT	NA	NA	A	NA	NA	NA	NR	NA	NA	NR	NR
	PL	PA	PA	PA	PA	PA	NA	NA	PA	PA	PA	NA
	DE	PA	NA	NA	PA	PA	PA	NA	PA	PA	PA	PA
	DK	PA	NA	NA	PA	PA	PA	NR	PA	PA	NA	PA
	SE	NA	PA	PA	NA	PA	PA	NA	PA	NA	PA	NR
North-east Atlantic Ocean	SE	NA	PA	PA	NA	PA	PA	NA	PA	NA	PA	NR
	DK	PA	NA	NA	PA	PA	PA	NR	PA	PA	NA	PA
	DE	PA	NA	NA	PA	PA	PA	NA	PA	PA	PA	PA
	NL	PA	NA	A	PA	PA	PA	A	PA	PA	PA	NA
	BE	A	NA	NA	PA	PA	A	A	A	PA	PA	PA
	UK	A	NA	A	A	A	A	A	PA	PA	PA	A
	IE	NR+	PA	PA	NR+	A	NR+	PA	PA	PA	NA	NR+
	FR	NA	NA	NA	NA	NA	NA	NA	NA	PA	PA	PA

	ES	PA	PA	PA	PA	PA	PA	A	PA	PA	PA	NA
	PT	NR+	NR+	PA	NR+	NR	NR+	NR+	NA+	NA+	NA+	NA+
Mediterranean Sea	UK	PA	NA	NR	PA	NR	PA	NA	NR	NR	NR	NR
	ES	PA	PA	PA	PA	PA	PA	A	PA	PA	PA	NA
	FR	PA	NA	NA	PA	NR	PA	NR	PA	NR	PA	PA
	IT	NA+	NA+	NA	NA+	NA+	NA+	NR+	NA+	NR+	PA+	NR+
	MT	PA	NA	NA	NA	NA	NA	NA	PA	NR	NA	NA
	HR	PA	PA	PA	PA	PA	PA	NA	NA	NA	PA	A
	SI	PA	PA	NA	NA	A	NA	NA	PA	PA	PA	NA
	EL	NA	NA	NA	NA	PA	NA	NA	NA	PA	NA	NA
	CY	NA+	NR	NA+	NR+	PA+	NA+	NR	NA	NA+	NR+	NR
Black Sea	BG	PA+	NA	PA+	NR+	A+	PA+	NA+	NA+	NA+	NR+	NR
	RO	PA+	NR+	NA+	NR+	NA+	NR+	NR	PA	NR+	NR+	NR+

Source: Commission SWD(2020)60final, Key stages and progress up to 2019, pages 15-16
Green (A) = adequate; orange (PA) = partially adequate; red (NA) = not adequate, grey (NR) = not reported. 7% of the assessments were considered adequate and 42% partially adequate. The sign '+' indicates that the Member State submitted updated targets by 2017 which were taken into account in subsequent assessments.

The table below shows the number of specific targets classified as quantitative and not quantitative for each class.

Table 15. Type of environmental target (2nd implementation cycle)

	Quantitative	Not quantitative
Targets for pressure reduction	79	75
Targets linked to threshold values	61	91
Targets linked to trends	51	106
Targets linked to measures:	75	80
• Targets linked to knowledge gaps	7	147
• Targets linked to monitoring and assessments needs	4	147
• Targets linked to awareness-raising	0	151

Source: 2023 JRC Report on environmental targets under the MSFD: A compilation of information, analysis results, discussions and resulting recommendations on targets under the MSFD.

92% of the targets for D9 and 89% of the targets for D5 are quantitative. Lower percentages of quantitative targets are reported for D6 (46%) and D8 (34%), followed by D2, D1, D10 and D3 with 22%, 21%, 10% and 6%, respectively. No quantitative targets are reported for D4 (Table 15).

The table below shows the number of specific '**quantitative targets**' for each Descriptor across Member States. 'Relative %' refers to the contribution of the class over the total number of targets per Descriptor.

Table 16. Number of quantitative targets by descriptor and by Member State (2nd implementation cycle)

Des-criptor	BE	CY	DK	EE	ES	FI	FR	HR	IE	IT	LT	LV	MT	NL	PL	PT	RO	SE	SI	Relative %
D1	7		2		1	1		7		1			1			4	4			21%
D2			1			2		1	1				1			1	3			22%
D3																	3			6%
D4																				0%
D5	4	1	1		5	6	6	3	7	1	1	1			8	4	5		3	89%
D6								2	3								1			46%
D8	9	1	1		4		1	2	3	1				1	1		1		4	34%

D9	3	1	1		1			1	1					1	1		1		1	92%
D10	1			1	6	2							1	1	1		2			18%
TOTAL	24	3	6	1	17	11	7	16	15	3	1	1	3	3	11	9	20	0	8	

Source: 2023 JRC Report on environmental target under the MSFD: A compilation of information, analysis results, discussions and resulting recommendations on targets under the MSFD.

The highest number of quantitative targets are reported for the ANS (NEA) (32 targets) and the MAD (MED) (27 targets) subregions. In the BLK, all the Descriptors, but D4 and D6, are reported with quantitative targets (Table 29). In the MAL and MIC subregions few quantitative targets are reported across Descriptors (Table 29).

The table below shows the number of specific 'quantitative targets' across marine regions:

Table 17. Number of specific 'quantitative' targets by descriptor and by region

Descriptor	North east Atlantic				Baltic Sea	Black Sea	Mediterranean sea				TOTAL
	ABI	ACS	AMA	ANS	BAL	BLK	MAD	MAL	MIC	MWE	
D1	3		2	9	1	4	8		1		30
D2		1	1	1	2	3	1		1		10
D3						3					3
D4											0
D5	9	7	5	4	17	5	7	1		4	59
D6		3				1	2				6
D8	3	3	1	11	1	1	7	1		1	29
D9	1	1		5	1	1	2	1			12
D10	2			2	4	2			1	4	15
TOTAL	18	15	9	32	26	20	27	3	3	9	164

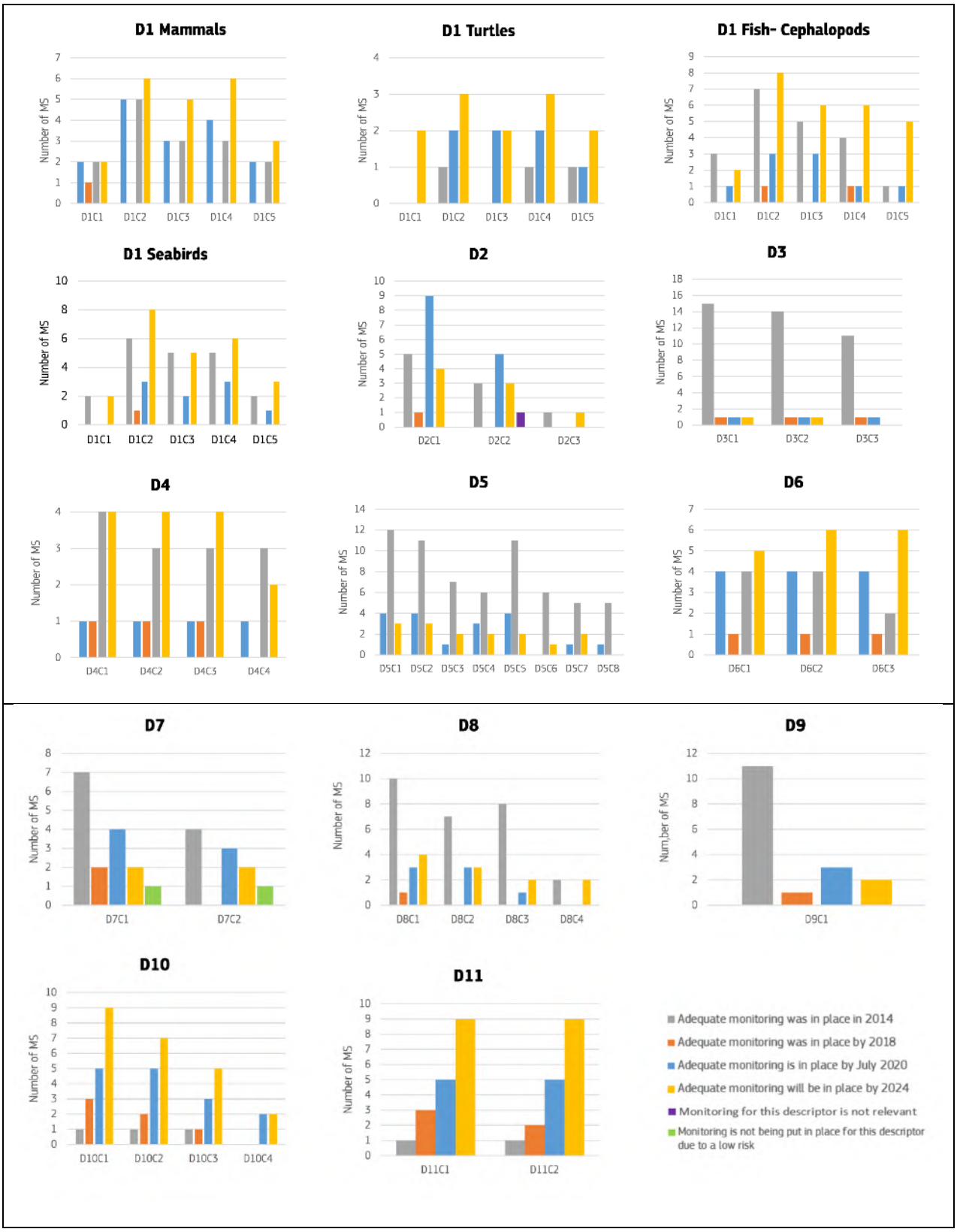
Source: 2023 JRC Report on environmental target under the MSFD: A compilation of information, analysis results, discussions and resulting recommendations on targets under the MSFD.

4. The development of monitoring programmes (Article 11)

The figure below compiles the coverage of GES criteria in the Member States' monitoring programmes and the timeframe for putting in place sufficient monitoring (as per the monitoring reporting guidance: MSFD Guidance Document 17[70]).

[70] Monitoring Guidance, MSFD document 17.

Figure 24. Coverage of GES descriptors by Member States' monitoring programmes (2nd implementation cycle)

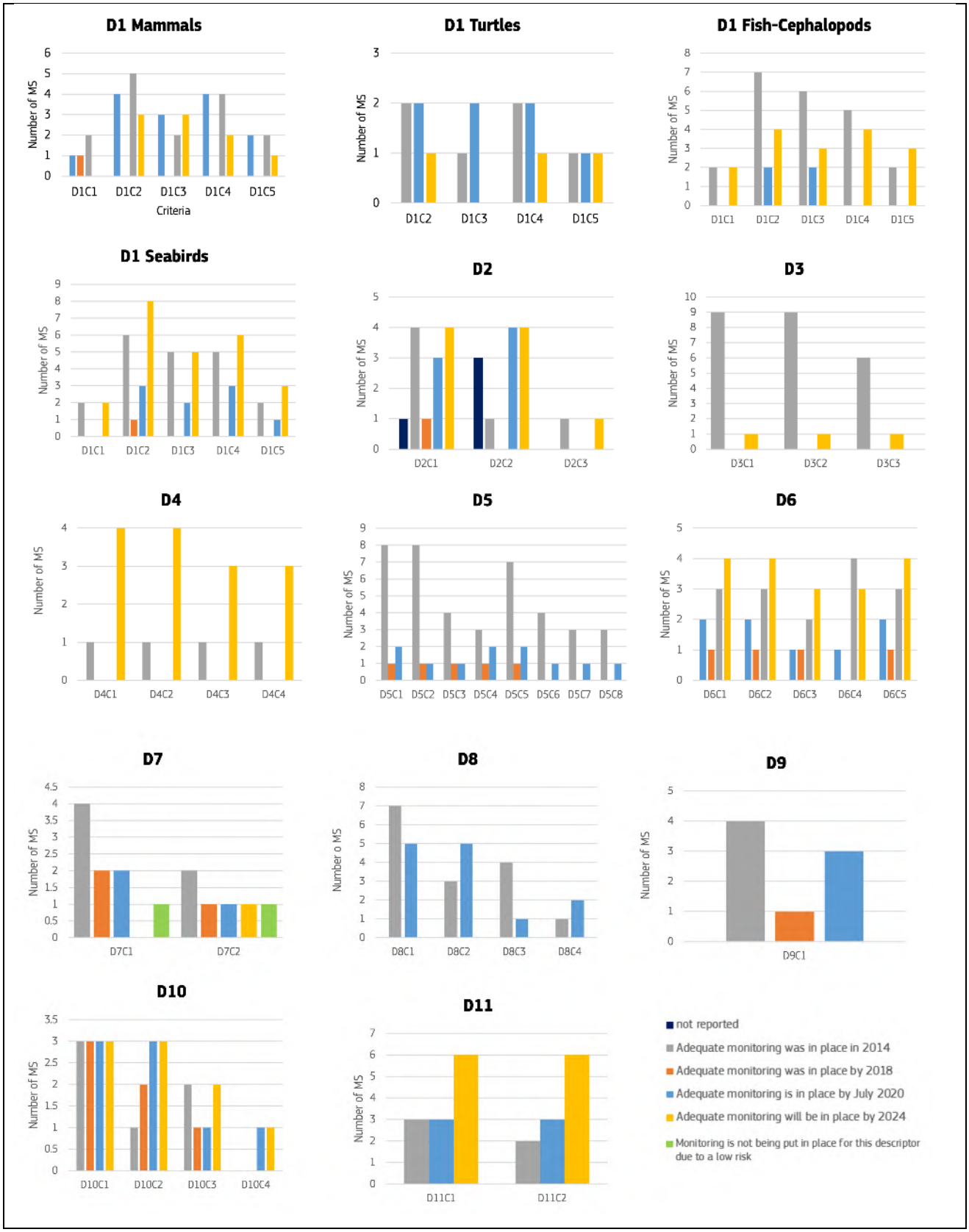


The Figure below shows the number of Member States reporting **adequate monitoring programmes** to assess progress with their targets.

Figure 25. Adequacy of Member States' monitoring programmes towards targets per descriptor

The Figure below shows the number of Member States declaring an **adequate monitoring programme** to assess progress with the measures.

Figure 26. Adequacy of Member States' monitoring programmes towards measures per descriptor



Programmes of measures (Article 13)

The graphs below present the adequacy of Member States' second programmes of measures for each descriptor[71].

Figure 27. Adequacy of Member States' second programmes of measures to address pollution issues, per descriptor

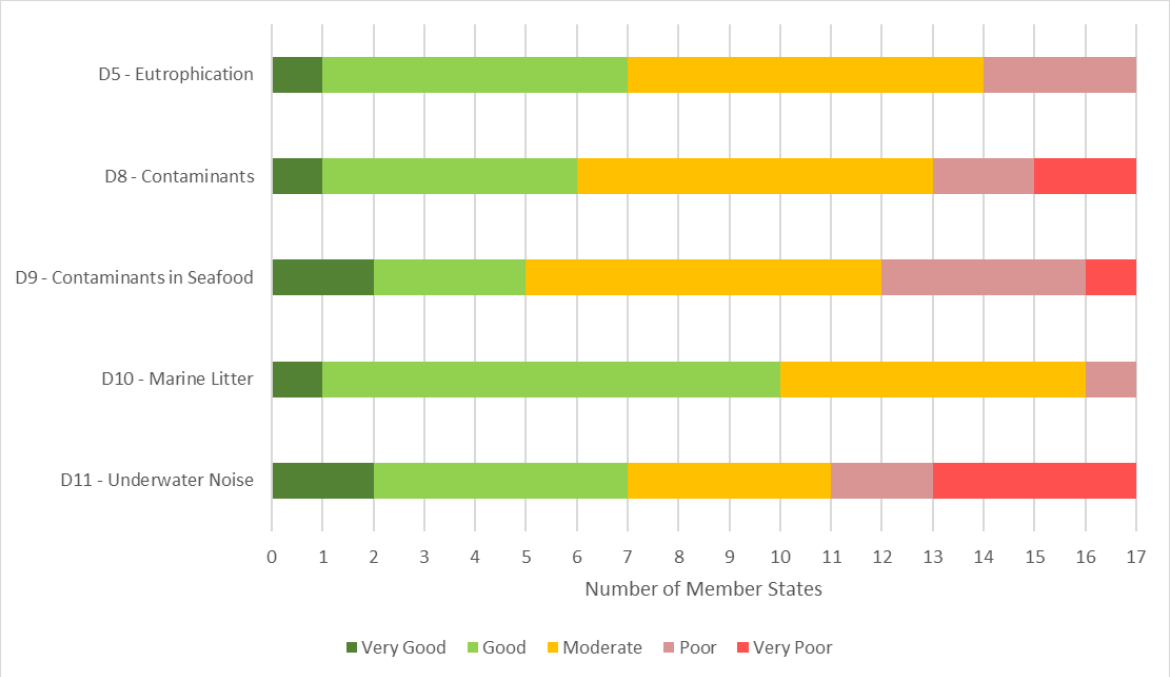
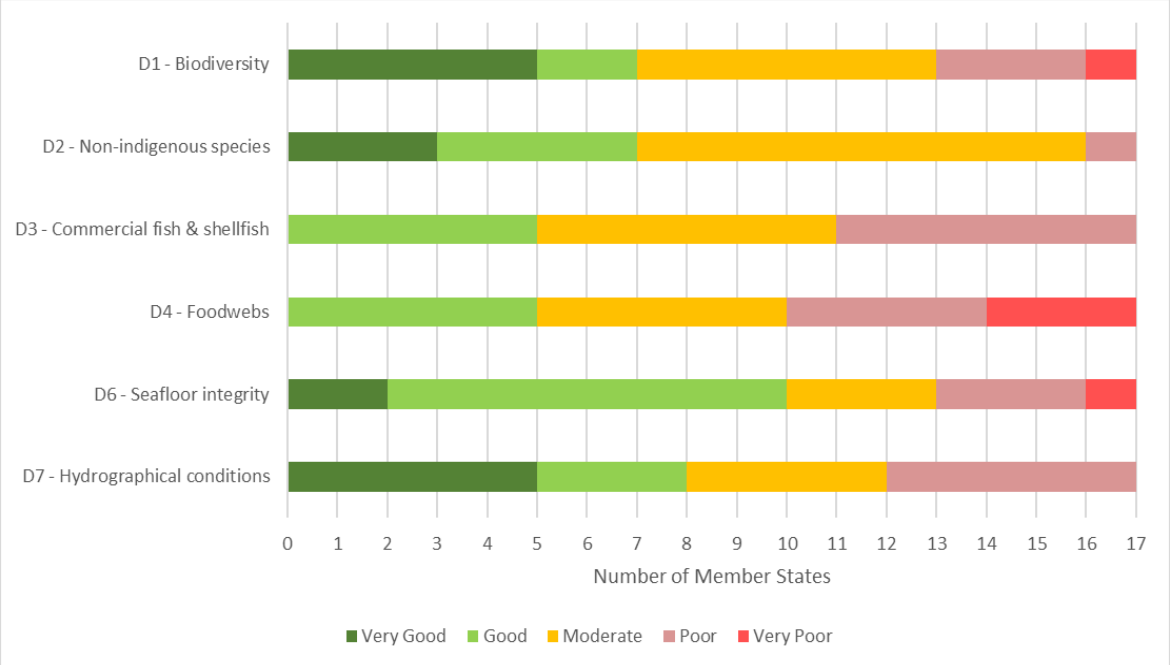


Figure 28. Adequacy of Member States' second programmes of measures to address biodiversity issues, per descriptor

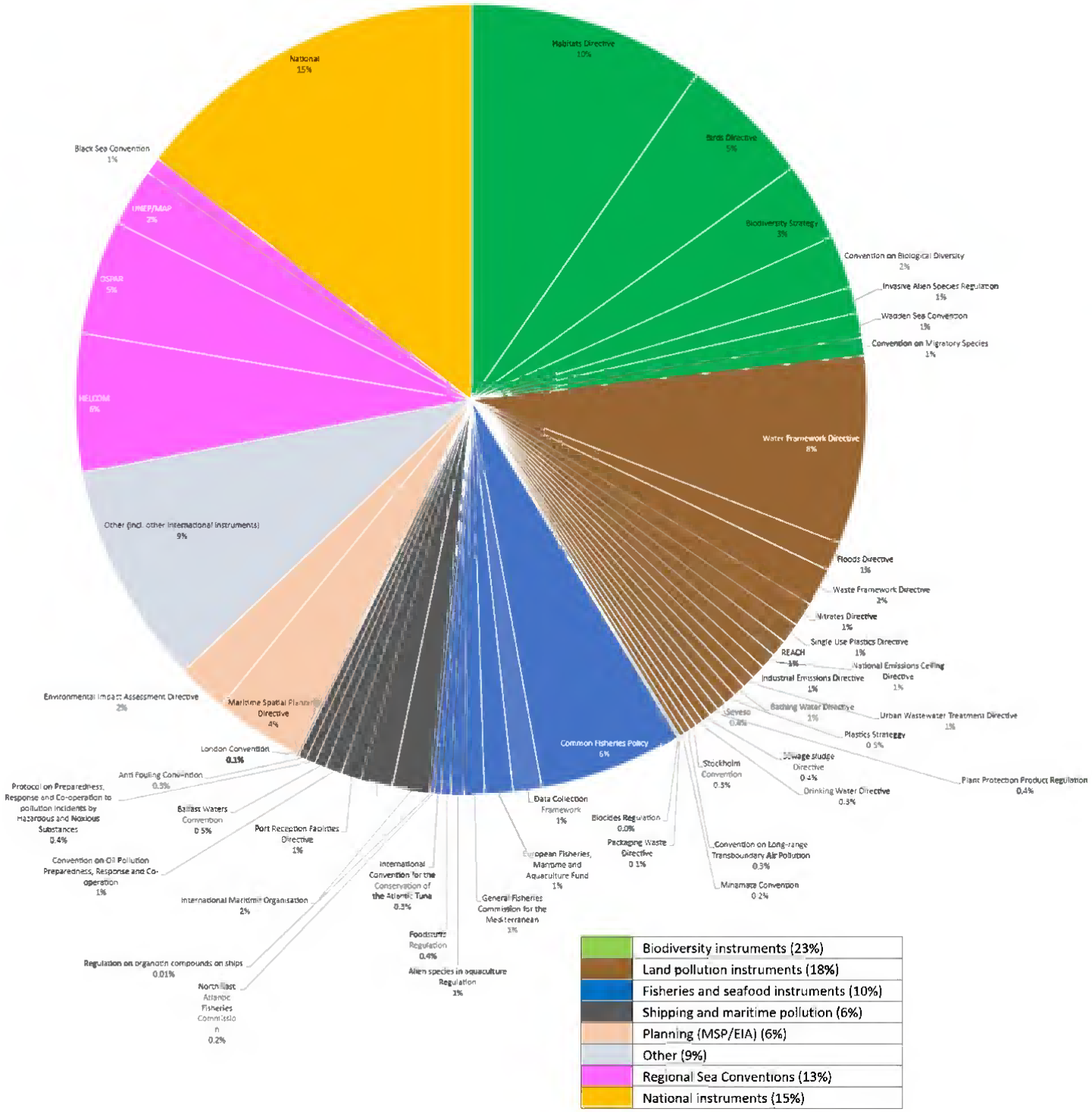


[71] Report from the Commission to the Council and the European Parliament on the *Commission's assessment of the Member States' programmes of measures as updated under Article 17 of the Marine Strategy Framework Directive (2008/56/EC),* COM(2025) 3

ANNEX VIII. RELEVANT LEGISLATION AND POLICIES

1. Relevant policy connection in the MSFD

Figure 29. Share of Member States' MSFD measures covering other national, regional, EU and international frameworks (2nd implementation cycle)



2. Environmental policy/legislation

Table 18. Coherence between environmental legislation/policy and MSFD

Legislation	Description	Link to MSFD	MSFD Descriptor
Overarching EU policies			
European Commission, COM/2019/640 final, Communication: The European Green Deal	The ***European Green Deal*** *(2019)* has been charting a path towards climate-neutrality by 2050 by transforming the EU into a modern, resource-efficient and competitive economy.	Through its subsequent strategies, the EGD has set out an ambitious green and digital transition agenda for European seas.	All
European Commission, COM/2020/380 final, Communication: EU Biodiversity Strategy for 2030 Bringing nature back into our lives	The ***Biodiversity Strategy for 2030*** notably aims to halt biodiversity loss and bring nature back in our lives.		All, but specifically **D1-D3-D4-D6**
European Commission, COM(2021) 400 final, Communication: EU Action Plan: 'Towards Zero Pollution for Air, Water and Soil'	The ***Zero Pollution Action Plan*** aims to reduce harmful pollution of air, water and soil to levels that are not harmful to health and natural ecosystems.		D1, D4, **D5**, D6, **D8, D9, D10, D11**
Water legislation			
Directive 2000/60/EC establishing a framework for Community action in the field of water policy (Water Framework Directive, WFD)	*The **Water Framework Directive*** aims to protect inland surface waters (i.e. lakes and rivers), transitional waters, coastal waters (up to 1nm from the coastline) and groundwaters. It also covers territorial waters (up to 12 nautical miles) in relation to their 'chemical status'. The WFD requires to achieve 'good ecological and chemical status' for surface waters, as well as 'good chemical and quantitative status' for groundwaters. The deadline to achieve these objectives was 2015, or at latest 2027 if exemptions apply. As for fresh water, coastal and transitional waters, and territorial waters,	The WFD and MSFD spatially overlap in the Member States' coastal waters, as regards ecological and chemical status, and in the entire territorial waters of a Member State, as regard chemical status. In order to avoid duplication of effort and resources in these overlapping areas, the WFD takes precedence over the MSFD for those aspects of environmental status that are common to both Directives, as prescribed in Article 3(1) of the MSFD, with the MSFD regulating those aspects and pressures that are not covered by the	D1, D2, D3, D4, **D5**, **D6, D7, D8, D9**, D10

Legislation	Description	Link to MSFD	MSFD Descriptor
	the WFD aims to restore or maintain 'good status', while 'high status' is required for pristine or reference conditions, from which relevant water bodies should not deteriorate.	WFD[72].	
Directive 2006/7/EC concerning the management of bathing water quality	*The **Bathing Water Directive*** aims to prevent and reduce pollution in bathing water to levels that are no longer harmful to human health and the environment. The Directive requires Member States to identify all bathing waters and define the length of the bathing season. It also ensures timely information is given to the public during the bathing season and requires Member States to disseminate information on bathing water quality actively and promptly.	The BWD is intended to complement the MSFD and WFD, targeting the bathing spots located in the scope of the two framework Directives.	D1, D4, D6, D5(?) **D8, D9**
Directive 91/271/EEC concerning urban waste-water treatment	*The **Urban Wastewater Directive*** addresses the collection, treatment and discharge of urban wastewater and certain industrial sectors' wastewater, thereby protecting the environment from the negative impact of these waters. The UWWTD established mechanisms and measures to reduce the input of organic matter and other pollutants into water bodies.	The UWWTD is one of the most efficient instruments in reducing the input of nitrate and phosphate into water bodies, which is directly linked to eutrophication (D5).	D1, D4, D6, **D5**, **D8, D9, D10**
Directive 2008/105/EC on environmental quality standards in the field of water policy	*The **EQS Directive*** lays down quality standards for priority substances and certain other pollutants as provided for in the WFD, with the aim of achieving good surface water chemical status. Under the EQS Directive, Member States shall establish a monitoring programme for those priority substances that tend to	The EQS Directive supports the objectives of the MSFD, in particular those related to contaminants (D8) by aiming to achieve good surface water chemical status.	D1, D4, D6, **D8, D9**

[72] Boyes, S. J. et al., 2016, 'Is existing legislation fit-for-purpose to achieve Good Environmental Status in European seas?', *Marine Pollution Bulletin*, 111(1-2), 18-32.

Legislation	Description	Link to MSFD	MSFD Descriptor
	accumulate in the sediments and in biota, and then take measures to prevent the increase of those substances' concentrations.		
Nature and biodiversity legislation			
Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora	The ***Habitats Directive*** aims to contribute to biodiversity conservation through the restoration and maintenance of natural habitats and species. More specifically, it requires the achievement of '**favourable conservation status**' (FCS) for the species and habitats falling under its scope. The HD covers a number of vulnerable marine species and habitats, including all cetaceans and marine reptiles found in the marine waters of EU Member States. The use of FCS highlights the ambition of the Directive to go beyond simply mitigating negative impacts and to secure a thriving environment. Another important component of the Directive is the establishment of the **Natura 2000 network.** Pursuant to Article 4 of the HD, Member States shall establish a national list of Sites of Community Importance (SCIs), based on the natural habitat types included in Annex I and the species in Annex II to the Directive.	The MSFD and nature Directives' requirements for protected areas should be complementary and mutually supportive (Recital 18 MSFD). While the implementation of Article 13(4) of the MSFD should benefit from the existing Natura 2000 network, the ambition to develop 'coherent and representative networks of MPAs' under the MSFD may provide a new impetus for the Habitats Directive to expand the Natura 2000 network73. In addition, with a broader and more holistic approach to the protection of the marine environment, the MSFD has triggered the development of MPAs dedicated to protecting entire ecosystem functions, in particular seafloor integrity or food webs, departing from the more traditional approach to conservation focused on individual features (species or habitats). Beyond designation, the lack of effective management in most MPAs means that the current EU network of MPAs is not delivering on conservation objectives. In 2019, studies reported that only 1.8% of the EU	**D1, D3, D4, D6**
Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds	The **Birds Directive** aims to ensure the conservation of all wild birds in the European territory, including all seabirds and requires the designation of Special Protection Areas to ensure the survival and reproduction		**D1, D3, D4, D6**

[73] European Commission, Ballesteros, M. et al., 2016, *Evaluation Study to support the Fitness Check of the Birds and Habitats Directives*, Final Report, Milieu & partners.

Legislation	Description	Link to MSFD	MSFD Descriptor
	of birds. As such this Directive contributes to the establishment of the Natura 2000 Network.	marine area was covered by MPAs with management plans, despite 12.4% being designated for protection[74].	
	MPA Network: The Birds and Habitats Directives have been the main drivers for the creation of marine protected areas ('MPAs') in EU seas. Well-managed MPAs can avoid biodiversity loss and help restore habitats and ecosystems, generate a spill-over effect that increases the biomass of commercially exploited species, sequester organic and inorganic carbon contributing to climate change mitigation, increase coastal protection as an important adaptation tool, increase ecosystem resilience in the face of invasive species or global warming, trap or dilute pollutants such as excess nutrients, boost sustainable touristic and recreational activities, and be invaluable refuges for research and technical innovation.	As the EU is moving from protection to restoration, the lack of efforts from Member States to adopt measures to restrict harmful activities in MPAs, such as certain fishing techniques[75], is an important obstacle in delivering on the EU's biodiversity objectives and commitments.	**D1, D3, D4, D6**
Nature Restoration Regulation	The **Nature Restoration Regulation** entered into force in August 2024 and aims to restore degraded ecosystems, habitats and species across the EU's land and sea areas, thus contributing to increase biodiversity and achieve climate mitigation and adaptation objectives. The regulation establishes binding restoration targets for specific habitats and species As a general	Art.5 of NRR sets specific restoration targets for marine habitats listed in Annex II and for habitats related to the species listed in Annex III. These habitats are also covered by MSFD. While MSFD is focused on reaching the good status of ecosystems, NRR is focused on the implementation of restoration measures. Restoration is included in	**D1, D3, D4, D6**

[74] WWF & Sky Ocean Rescue, 2019, *Protecting Our Ocean. Europe's challenge to meet the 2020 deadlines*, https://www.wwf.eu/?352796/EU-failing-2020-commitments-for-marine-biodiversity-protection

[75] The issue of fishing techniques is being addressed in the context of the recently adopted Marine Action Plan (COM/2023/102 'EU Action Plan: Protecting and restoring marine ecosystems for sustainable and resilient fisheries'). See Section 4.3.2 on coherence with fisheries legislation.

Legislation	Description	Link to MSFD	MSFD Descriptor
	requirement, restoration measures should cover at least 20% of EU's land and sea by 2030 and ultimately all ecosystems in need of restoration by 2050. EU countries are expected to submit **Nature Restoration Plans** to the Commission by mid-2026, setting out restoration needs and measures, and are required to monitor and report their progress towards targets' achievement.	the objectives of MSFD under Art.1(2)(a).	
Horizontal environmental legislation and programmes			
Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment **Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment**	The **EIA Directive** and the **SEA Directive** aim to provide high-level protection of the environment and environmental mainstreaming in the preparation and adoption of projects, plans and programmes.	The scope of action of the EIA and SEA Directives includes marine policy, with desk research showing that the assessments prescribed under the Directives are relevant to the assessment of status of all MSFD descriptors. The data-sharing implied in the MSFD can offer significant synergies with EIA and SEA procedures, although further streamlining and coordination efforts are needed.	All
Directive 2007/2/EC establishing an Infrastructure for Spatial Information in the European Community	The **INSPIRE Directive** aims to establish harmonised rules for gathering and sharing data related to EU environmental policies and activities.	INSPIRE is explicitly mentioned in the MSFD, which confirms alignment with its methodological standards for the assessment of the status of the marine environment, monitoring, environmental targets, and technical formats for transmission and processing of data. Differences in standards and software for data processing are reported to hinder the coordination of both Directives and the interoperability of the data exchanged.	All

Legislation	Description	Link to MSFD	MSFD Descriptor
Regulation (EU) 2021/783 establishing a Programme for the Environment and Climate Action (LIFE)	The **LIFE Programme** is the only EU funding scheme dedicated exclusively to the environment, nature conservation and climate action. As such, it fully contributes to the objectives and targets of the European Green Deal, EU Biodiversity Strategy. LIFE has funded over 6 000 projects in the last 32 years, including hundreds of projects on the management of marine waters, supporting directly or indirectly the implementation of the MSFD.	More specifically, in the area of marine and coastal water management, the Programme focuses on funding the application of innovative solutions to ensure the protection and conservation of the seas, oceans and their coasts, by fostering sustainable human activities within the marine environment. This would include initiatives aimed at reducing the pressure of human activities on the marine environment, in line with the 11 descriptors of the MSFD.	All
Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste	The **Waste Framework Directive** lays down measures to protect the environment and human health by preventing or reducing the generation of waste, the adverse impacts of the generation and management of waste and by reducing overall impacts of resource use and improving the efficiency of such use.	The recent revision of the Waste Framework Directive has added direct references to the MSFD and marine litter. It underlines that MS have to include specific measures in the waste prevention and management plans to counteract marine litter and contribute to the achievement of GES under the MSFD.	D1, D4, D6, D8, D9, **D10**
Directive (EU) 2019/904 of the European Parliament and of the Council of 5 June 2019 on the reduction of the impact of certain plastic products on the environment	The **Single-Use Plastics Directive** aims to prevent and reduce the impact of certain plastic products on the environment, in particular the marine environment, and on human health. It does so through different measures (ranging from bans on SUP items, to waste prevention and management, awareness-raising and producer responsibility). It also aims to promote the transition to a circular economy with innovative and sustainable business models, products and materials.	By reducing the use of certain plastic products and by setting specific targets promoting the use of recycled plastics, the SUP Directive is expected to have a positive impact on plastic pollution. Therefore, it is expected to contribute to reach the MSFD GES objective under D10 in particular.	D1, D4, D6, **D10**
Maritime policy and legislation			

Legislation	Description	Link to MSFD	MSFD Descriptor
Communication from the Commission on a new approach for a sustainable blue economy in the EU Transforming the EU's Blue Economy for a Sustainable Future, COM/2021/240 final	The **Commission's new approach** in the context of the Green Deal seeks to transform the **EU's Blue Economy** for a Sustainable Future, by providing coherence across the blue economy sectors, facilitating their coexistence and looking for synergies in the maritime space, without damaging the environment. It also underlines the need for investment in research, skills and innovation. The new approach to the Blue Economy is focused on sustainability of the economic activities based on European seas.	Ensuring the health of the marine environment is crucial for sustainability. By promoting a green maritime transport, zero-emission ports, circularity and low impact aquaculture, this new approach will result in positive outcomes towards MSFD objectives. The Communication on this new approach to Blue Economy encourages the full implementation of MSFD.	All
Directive 2014/89/EU of 23 July 2014 establishing a framework for maritime spatial planning, 'MSP Directive'	The **Maritime Spatial Planning Directive** entered into force in 2014 with the objective to allow a coherent approach to the overall planning and allocation of sea and coastal areas, in order to promote the sustainable growth of maritime economies, marine areas and the sustainable use of marine resources. In addition to preventing conflict of use, it aims to streamline decision-making, allow a better investment climate, increase cross-border cooperation and protect the environment.	The MSP Directive steers Member States towards a rational spatial allocation of maritime activities that would limit cumulative pressures on marine ecosystems. More specifically the Directive requires Member States to apply an ecosystem-based approach when designing and implementing their maritime spatial plans, and explicitly refers back to the definition provided of EBA in the MSFD (MSPD, Recital 14).	All
Regulation (EU) 1380/2013 complemented by several fisheries-related regulations and initiatives in particular the Fisheries Control Regulation (EC) 1224/2009, the European Maritime, Fisheries and Aquaculture Fund Regulation (EU)	The **Common Fisheries Policy** (*'CFP'*) aims at the conservation of marine biological resources and sustainable management of fisheries and fleets exploiting those resources.	The CFP aims to 'ensure that fishing and aquaculture activities are environmentally sustainable in the long-term'(Article 2(1)) and makes a direct reference to the MSFD and the achievement of good environmental status (Article 2(5)(j) of the Regulation). The CFP requires the use of the ecosystem-based approach	**D1, D3, D4, D6**, D10

Legislation	Description	Link to MSFD	MSFD Descriptor
2021/1139 (replacing the EMFF Regulation), the Technical Measures Regulation (EU) 2019/1241).		(Article 2) to limit the environmental impacts of fishing activities and avoid and reduce unwanted catches as far as possible (Recital 13).	
Regulation (EU) 2017/1004 of the European Parliament and of the Council of 17 May 2017 on the establishment of a Union framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the common fisheries policy	As part of the CFP, the **EU framework for data collection** establishes requirements for the collection, management and use of biological, environmental, technical and socio-economic data in the fisheries sector. Under this framework, Member States are required to establish related multiannual national programmes in accordance with the multiannual Union programme for data collection.	The Regulation aims to ensuring collection of data on stocks caught and by-caught in Union commercial and recreational fisheries, data on by-catch of non-target species, data on fishing efforts and on socioeconomic and sustainable data on aquaculture. The availability of such data will primarily contribute to the assessment of MSFD descriptor D3, but also D1, D6 and D4, and ultimately will contribute to the achievement of GES, as stated in the Regulation text.	D1, **D3**, D4, D6
Communication from the Commission, EU Action Plan: Protecting and restoring marine ecosystems for sustainable and resilient fisheries, COM/2023/102 final	The **Marine Action Plan** was adopted in February 2023 and proposes a number of concrete recommendations to Member States to better streamline requirements under fisheries and environmental legislation, including the MSFD, accelerate the transition to more sustainable and ecosystem-based fishing practices and to foster increased cooperation between fisheries and environmental authorities, at all governance levels.	The Plan includes actions aimed at: improving fishing selectivity, minimising bycatch of sensitive species, ensuring strict protection of fish spawning and nursery areas, reducing the impact on seabed, taking appropriate measures to tackle fishing-related marine litter, improving the monitoring of fisheries. All these actions are closely related to MSFD objectives under descriptors D1, D3, D4, D6 and D10. The Plan directly refers to implementation of MSFD, setting deadlines for: developing threshold values for mortality rates from incidental catches and for the extent of seabed that can be	**D1, D3**, D4, **D6**, D10

Legislation	Description	Link to MSFD	MSFD Descriptor
		affected/lost; updating PoMs against fishing-related marine litter. The Plan also refers to the need of strengthening enforcement under the MSFD.	
Communication from the Commission, Strategic guidelines for a more sustainable and competitive EU aquaculture for the period 2021 to 2030, COM/2021/236 final	The new **Strategic guidelines for a more sustainable and competitive EU aquaculture** of May 2021 aim to make the EU aquaculture sector more competitive and resilient, and to improve its environmental and climate performance.	The Strategic guidelines and the related Staff Working Document (SWD(2024) 107 final) refer to MSFD as one of the environmental policies applying to aquaculture. Indeed, as one of the human activities affecting human environment, according to Article 1(3) of MSFD, aquaculture should be managed according to an ecosystem-based approach, to ensure that it is compatible with the achievement of GES.	D1, **D2**, D3, D4, **D5**, D6, D7, **D8, D9**, D10
Communication from the Commission, Sustainable and Smart Mobility Strategy – putting European transport on track for the future, COM/2020/789 final	The **Sustainable and Smart Mobility Strategy** includes a number of measures to incentivise the uptake of sustainable alternative fuels, e.g. through the Fuel EU Maritime initiative.	The Strategy notes the need to tackle transport-related noise and plastic pollution (e.g. from tyres), both aspects that are also directly relevant to achieving the objectives of the MSFD.	D1, **D10**, **D11**
Directive (EU) 2019/883 of the European Parliament and of the Council of 17 April 2019 on port reception facilities for the delivery of waste from ships, amending Directive 2010/65/EU and repealing Directive 2000/59/EC	**Port Reception Facilities Directive** aims at a reduction of ship-generated waste and cargo residues at sea by improving the availability and use of adequate port reception facilities. It transposes the relevant parts of MARPOL into EU law.	The PRF Directive covers garbage including plastic waste from ships, noxious and liquid substances, oily waste and residues, scrubber residues, and sewage from ships. As such it is an important instrument to prevent pollution of the marine environment from these substances.	D1, D4, **D5** D6, **D8**, **D10**
Directive 2005/35/EC of the European Parliament and of the Council on ship-source pollution and on the introduction of	**The Ship-Source Pollution Directive** sets rules on the imposition of penalties in the event of discharges of oil or other polluting substances	The Directive can deter intentional discharges of polluting substances and waste from ships, contributing to the	D1, D4, **D5,** D6, **D8, D9, D10**

Legislation	Description	Link to MSFD	MSFD Descriptor
penalties for infringements.	from ships sailing in its waters. It was revised in 2024 to align better with MARPOL and extend its scope to cover more types of polluting substances discharged into the sea, such as sewage and garbage.	protection of the marine environment.	
Directive (EU) 2016/802 of the European Parliament and of the Council relating to a reduction in the sulphur content of certain liquid fuels	The **Sulphur Directive** aims to reduce the emissions of sulphur dioxide resulting from the combustion of certain types of liquid fuels and thereby to reduce the harmful effects of such emissions on man and the environment.	Sulphur oxides emissions contribute, together with nitrogen oxides and CO_2 emissions, to seawater acidification, which in turn is known to have adverse effects on habitats, biodiversity and food webs. Various GES descriptors can be affected by acidification. Therefore, the Sulphur Directive contributes to fulfil MSFD objectives.	D1, D4, **D5 (?),** D6, **D8, D9**
Other sectoral EU policies			
Directive 2013/30/EU of the European Parliament and of the Council of 12 June 2013 on safety of offshore oil and gas operations	The **Directive on Safety of Offshore Oil and Gas Operations** provides a set of rules to help prevent accidents, and respond promptly and efficiently should one occur. It also requires national authorities to verify safety provisions, environmental protection measures and the emergency preparedness of rigs and platforms.	The Directive clearly aims to protecting the marine environment from the impacts of offshore oil and gas operations and accidents. The contribution to the achievement of GES under MSFD is stated among the objectives of this Directive.	D1, D4, D6, **D8, D9**
Communication from the Commission, REPowerEU Plan, COM/2022/230 final	**REPowerEU** is the EU's response to the energy crisis caused by Russia's invasion of Ukraine. It aims to diversify energy supplies, secure affordable energy, save energy, and invest in renewables and clean hydrogen.	Since REPowerEU was adopted, EU has declined its natural gas demand by 18% and massive investments in renewable energy have contributed to increase EU's solar and wind capacity. For the first time in 2022 more electricity was produced from renewables than from gas. Reduction in the use of natural gas and other fossil fuels, leading	D1, D3, D4, D6, D7, D11

Legislation	Description	Link to MSFD	MSFD Descriptor
		to a decline in CO_2 and other greenhouse gases emissions, will be beneficial for the whole environment state. Furthermore, the extraction of gas from the seafloor is a pressure addressed by MSFD, and decreasing offshore gas exploration and extraction would have direct benefits on marine ecosystems and habitats.	
Directive (EU) 2023/2413 of the European Parliament and of the Council of 18 October 2023 as regards the promotion of energy from renewable sources	**RED III** sets an overall renewable energy target of 42.5% binding at EU level by 2030, but aiming for 45%. In addition to this target, permitting procedures will be made easier and faster both for renewable energy projects (including through shorter approval periods and the creation of 'Renewables acceleration areas') and for the necessary infrastructure projects.	Boosting the share of renewable energy will reduce the use of fossil fuels and related greenhouse gases and pollutants emissions. The decreasing need of offshore gas and oil exploration and extraction will have direct benefits on marine ecosystems and habitats.	D1, D3, D4, D6, D7, D11
Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, A Farm to Fork Strategy for a fair, healthy and environmentally friendly food system, COM/2020/381 final	The **Farm to Fork Strategy** was adopted in May 2020 to make food systems fair, healthy and environmentally friendly.	The Farm to Fork Strategy promotes more sustainable agriculture, fisheries, and aquaculture. These sectors affect the marine environment through pressures that are addressed by MSFD, such as contamination, nutrients inputs, biological disturbance, habitat loss, marine litter.	D1, **D2**, **D3**, D4, **D5**, D6, **D9**
Regulation (EU) 2021/2116 on the financing, management and monitoring of the CAP **Regulation (EU) 2021/2115,**	**The common agricultural policy** (2023-2027) seeks to ensure a sustainable future for European farmers, provide more targeted support to smaller farms, and allow greater flexibility for EU countries to adapt measures to local conditions.	The CAP encourages green farming and enforces environmental rules through various measures, e.g. establishing environmental conditions and standards to be met to access financial support. Green farming includes low inputs of pesticides and nutrients and organic	D1, D3, D4, **D5**, D6, **D8, D9**

Legislation	Description	Link to MSFD	MSFD Descriptor
establishing rules on support for national CAP strategic plans **Regulation (EU) 2021/2117, amending regulations on the common organisation of the agricultural markets, quality schemes for agricultural products, geographical indications for aromatised wine products, and laying down measures for agriculture in the outermost regions of the EU.**	Agriculture and rural areas are central to the European Green Deal, and the CAP 2023-27 will be a key tool in reaching the ambitions of the Farm to Fork and biodiversity strategies.	farming, which would reduce pressures on the marine environment from agriculture.	
Council Directive of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources (91/676/EEC)	The Nitrates Directive protects groundwaters, rivers, lakes and seas from pollution caused by nitrates. It sets limits on the use of fertilisers and promotes the adoption of good farming and environmental practices. Nitrogen is a crucial nutrient that helps plants and crops grow, but high concentrations are harmful to people and nature.	Too many nitrates affect water quality and many economic activities, including agriculture and fisheries. One consequence is eutrophication, and toxic algae blooms. Excess of nitrates means additional treatment costs before the water is fit to drink, loss of income for economic operators and disappearance of unique nature.	D1, D4, **D5**, D6
Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides	**The Pesticides Directive** sets rules for the sustainable use of pesticides by reducing their risks to human health and the environment. It promotes the use of integrated pest management and different techniques such as non-chemical alternatives.	Pesticides are among the most relevant contaminants in marine waters. Therefore, achieving the objectives of the Pesticides Directive will be beneficial for the state of the marine environment as well.	D1, D4, D6, **D8, D9**
International conventions			
International Convention for the Prevention of	**MARPOL** includes regulations to prevent and minimise pollution from ships (accidental and/or	MARPOL aims to preventing pollution from a wide range of ships-based sources. Therefore,	D1, D4, **D5**, D6, **D8, D9, D10**

Legislation	Description	Link to MSFD	MSFD Descriptor
Pollution from Ships (MARPOL)	routine) and sets out for the discharge of ship-generated waste and cargo residues, including oily discharges, substances in bulk, harmful substances carried by sea in packed form, sewage from ships, garbage from ships and air pollution. It also requires the provision of adequate port reception facilities.	it directly contributes to achieve the MSFD GES under descriptors D5, D8, D9, D10 and ultimately to protect biodiversity, food webs and seabed habitats.	
IMO, International Convention on the Control of Harmful Anti-fouling Systems on Ships	The **International Convention on the Control of Harmful Anti-fouling Systems on Ships** prohibits the use of harmful organotins in anti-fouling paints used on ships and establishes a mechanism to prevent the potential future use of other harmful substances in anti-fouling systems.	Recently, IMO has amended the Convention to include controls on the biocide cybutryne, which is highly toxic for algae, seagrass and coral.	D1, D4, D6, **D8, D9**
IMO, Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, adopted in 1972 **London Protocol entered into force in 2006**	The **Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter** (London Convention) generally prohibits the dumping of certain hazardous materials and requires Contracting Parties to issue a permit for dumping wastes and other matter at sea.	In 1996, the London Protocol was agreed, which prohibits all dumping, except for possibly acceptable wastes that are listed in Annex I to the Protocol directly contributing to Descriptors 8, 9 and 10.	D1, D4, D6, **D8, D9, D10**
IMO, International Convention for the Control and Management of Ships' Ballast Water and Sediments, adopted in 2004 and entered into force globally on 8 September 2017.	The **International Convention for the Control and Management of Ships' Ballast Water and Sediments** (BWMC) aims to minimise the transfer of non-indigenous harmful aquatic organism and pathogens from one area through another through the ballast water system of a ship.	The BWC is the most substantial measure to directly address Descriptor 2.	D1, **D2**, D4, D6
Convention on Biological Diversity (CBD)	The **CBD** aims to conserve biological diversity, sustainable use of the components of biological diversity, and a fair and equitable sharing of the benefits arising out of the	The Convention stipulates that each contracting party should monitor biodiversity, develop strategies to protect biodiversity by adopting conservation measures,	D1, D2, D3, D4, D6

Legislation	Description	Link to MSFD	MSFD Descriptor
	utilization of genetic resources The Convention was approved by the European Community in 1993 (Decision 93/626/EEC).	preventing the introduction of alien species, restoring degraded ecosystems. All these objectives are shared and further developed by MSFD.	
Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction (BBNJ Agreement)	The **BBNJ** Agreement was adopted in June 2023 and will enter into force after ratification by 60 UN contracting parties. The main achievement of BBNJ is the possibility to establish Marine Protected Areas (MPAs) in international waters, addressing a major gap in ocean protection, as only 1% of the high seas is currently protected. BBNJ also sets a framework for environmental impact assessments in the high sea, fair sharing of benefits from marine genetic resources and for capacity building and transfer of marine technologies to developing countries. Ultimately it will provide for shared governance over the high seas.	Areas beyond national jurisdiction comprise the high seas and the deep seabed. BBNJ aims to protect these areas against existing pressures from pollution, unsustainable exploitation, biodiversity loss and climate change. These objectives are coherent with MSFD objectives. BBNJ provides an extension of MSFD objectives beyond its geographical scope (limited to the area where each MS exercises jurisdictional rights).	All

ANNEX IX. REFERENCES

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